HEXCO

COMPUTING &
DIGITAL LITERACY

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LEARNING OUTCOME 1

Computer Network

Definitions:

- **Data Communications:**
    - This is the transfer of data between devices. It's the process of sending and receiving information electronically.
- **Computer Network:**
    - A computer network is a collection of interconnected devices that can communicate and share resources.

Advantages of Networking Computers:

1. **Resource Sharing:**
    - Networks allow multiple users to share hardware devices like printers, scanners, and storage devices, reducing costs.
2. **Data and Information Sharing:**
    - Networks enable easy access to and sharing of files and data among authorized users, improving collaboration and productivity.
3. **Enhanced Communication:**
    - Networks facilitate communication through email, instant messaging, video conferencing, and other tools, enabling efficient information exchange.
4. **Centralized Data Management:**
    - Networks allow for centralized storage and management of data, making it easier to back up, secure, and update information.

5. **Increased Productivity:**
    - By enabling resource and information sharing, networks streamline workflows and improve overall productivity.
6. **Software and Application Sharing:**
    - Networks allow for the sharing of software applications, reducing the need to install software on individual computers.

Disadvantages of Networking Computers:

1. **Security Risks:**
    - Networks are vulnerable to security threats such as viruses, malware, and unauthorized access, which can compromise sensitive data.
2. **Network Downtime:**
    - Network failures can disrupt communication and access to resources, leading to downtime and lost productivity.
3. **Complexity and Maintenance:**
    - Setting up and maintaining a network can be complex and require skilled personnel, leading to increased costs.
4. **Dependency on the Server:**
    - In client-server networks, if the server fails, the entire network may be affected.
5. **Cost:**
    - The initial setup cost of network hardware and software can be high. Also the cost of ongoing maintenance.
6. **Potential for Data Loss:**
    - If proper backup procedures are not in place, network failures or security breaches can lead to data loss.

Types of Networks

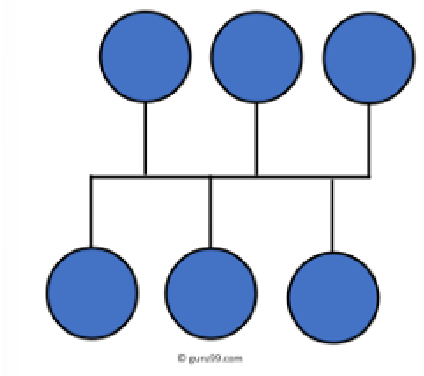
(Think of it like different sizes of neighbourhoods):

- **LAN (Local Area Network):**
    - Imagine your house or a small office. That is a LAN. It is a network that covers a small geographical area.
    - It connects devices like computers, printers, and smartphones within that limited space.
    - LANs are typically fast and relatively inexpensive to set up.
    - Example: Your home Wi-Fi network.
- **MAN (Metropolitan Area Network):**
    - Now, think of a whole city. That is a MAN. It is larger than a LAN but smaller than a WAN.
    - It connects networks within a city or metropolitan area.
    - MANs are often used by organizations that have multiple offices in a city.
    - Example: A city wide network used by a university, or a large company that has many buildings in a city.
- **WAN (Wide Area Network):**
    - Finally, imagine the entire world. That is a WAN. It is the largest type of network.
    - It connects networks across large geographical distances, like countries or continents.
    - The internet is the biggest example of a WAN.
    - WANs are slower than LANs and MANs because data has to travel much farther.

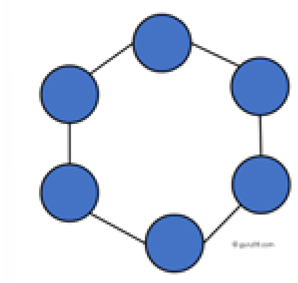
Network Topologies

(Think of it like how the roads in your neighborhood are laid out):

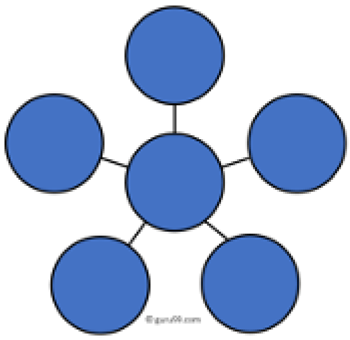
- **Bus Topology:**
  - Imagine a single straight road with houses (computers) connected to it.
  - All devices are connected to a single cable called a "bus."
  - Data travels along the bus, and every device sees it.
  - If the bus cable breaks, the entire network goes down.
  - This is an older style of network and is not very common anymore.



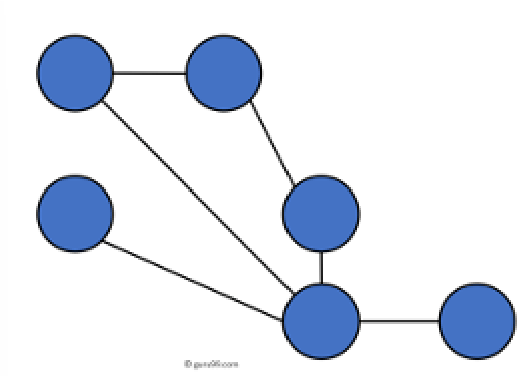
- **Ring Topology:**
  - Imagine a circular road with houses (computers) connected to it.
  - Each device is connected to two other devices, forming a closed loop.
  - Data travels in one direction around the ring.
  - If one device or cable fails, the entire network can be affected.
  - Also, an older style of network, and not very common anymore.



- **Star Topology:**
    - Imagine a central hub or switch (like a town square) with roads (cables) leading to each house (computer).
    - All devices are connected to the central hub.
    - Data travels through the hub to the destination device.
    - If a device or cable fails, only that device is affected.
    - If the central hub fails the whole network fails.
    - This is a very common topology in modern networks.



- **Mesh Topology:**
    - Imagine a neighbourhood where every house (computer) has its own road (cable) to every other house.
    - Each device is connected to many other devices.
    - Data can travel along multiple paths.
    - This is very reliable because if one path fails, data can still travel along another path.
    - This topology is very expensive to implement.
    - This topology is used where high reliability is needed.



Client-server setup and the network devices that make it work

Client-Server Setup:

Imagine a restaurant:

- **Server:** This is like the kitchen and the head chef. It's a powerful computer that stores and manages data, applications, and resources. It provides services to other computers on the network.
  - In a business, servers might handle:
    - File storage (company documents).
    - Email.
    - Website hosting.
    - Database management (customer information).
    - Application hosting (accounting software).
- **Client:** This is like the dining area and the customers. These are the workstations (computers) that employees use. They request services from the server.
  - Clients might:

        - Access shared files on the server.
        - Send and receive emails through the server.
        - Access company applications hosted on the server.
        - browse the internet.
- **The Process:**
    - A client sends a request to the server.
    - The server processes the request.
    - The server sends a response back to the client.

Common Network Devices:

- **Server:**
    - As explained above, the powerful computer that provides services.
- **Client:**
    - The workstations that users interact with.
- **Router:**
    - Think of a router as a traffic director. It connects different networks together, like your local network to the internet.
    - It determines the best path for data to travel.
- **Switch:**
    - A switch connects devices within a local network (LAN).
    - It intelligently forwards data to the correct destination device.
    - Switches operate at layer 2 of the OSI model, using MAC addresses.
- **Hub:**

    - An older and less efficient device. A hub also connects devices in a LAN, but it simply broadcasts data to all connected devices.
    - Hubs operate at layer 1 of the OSI model.
    - This can lead to network congestion and security issues.
    - Hubs are rarely used in modern networks.
- **Bridge:**
    - A bridge connects two LAN segments, filtering traffic based on MAC addresses.
    - Bridges operate at layer 2 of the OSI model.
    - They are used to segment networks and improve performance.

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Wi-Fi and Hotspots as Network Distribution Resources:

- **Wi-Fi (Wireless Fidelity):**
    - Wi-Fi is a wireless networking technology that uses radio waves to provide internet access and network connectivity.
    - It allows devices like laptops, smartphones, and tablets to connect to a network without physical cables.
    - **How it Works:**
        - A wireless router broadcasts a Wi-Fi signal.
        - Devices with Wi-Fi adapters can detect and connect to this signal.
        - The router connects to a wired network (like your internet service provider) and acts as a bridge between the wireless devices and the internet.
    - **Wi-Fi as a Distribution Resource:**

        - It provides convenient and flexible network access, especially in homes, offices, and public spaces.
        - It eliminates the need for cumbersome cables, making it easy to connect multiple devices.
        - It allows for mobility within the coverage area.
- **Hotspot:**
    - A hotspot is a location where Wi-Fi internet access is made available.
    - It can be provided by:
        - A dedicated Wi-Fi router in a public place (like a coffee shop or airport).
        - A smartphone or mobile device that shares its cellular data connection (mobile hotspot).
    - **Hotspot as a Distribution Resource:**
        - It provides internet access to users on the go.
        - It is useful for travellers, remote workers, and anyone who needs temporary internet access.
        - Mobile hotspots allow for connectivity in areas where normal Wi-Fi is not available.

Evaluating Network Environments: Intranet and Extranet for Business:

- **Intranet:**
    - An intranet is a private network that is accessible only to authorized users within an organization.
    - It's like a company's internal website.
    - **Business Evaluation:**
        - **Advantages:**

            - **Improved Communication:** Facilitates internal communication and collaboration.
            - **Enhanced Information Sharing:** Provides a central repository for company documents and resources.
            - **Increased Productivity:** Streamlines workflows and improves access to information.
            - **Enhanced Security:** Limits access to sensitive information.
        - **Disadvantages:**
            - **Maintenance Costs:** Requires ongoing maintenance and updates.
            - **Security Risks:** Vulnerable to internal security threats.
            - **Limited Accessibility:** Only accessible to authorized users within the organization.

- **Extranet:**
    - An extranet is a controlled network that allows authorized external users (like customers, suppliers, or partners) to access specific parts of an organization's intranet.
    - It's like a bridge between the company's internal network and selected external parties.
    - **Business Evaluation:**
        - **Advantages:**
            - **Improved Collaboration:** Facilitates collaboration with external partners.
            - **Enhanced Customer Service:** Provides customers with access to order tracking, support, and other services.
            - **Streamlined Supply Chain Management:** Enables efficient communication and data exchange with suppliers.
            - **Increased Efficiency:** Automates business processes and reduces manual data entry.

        - **Disadvantages:**
            - **Security Risks:** Increases the risk of unauthorized access to sensitive information.
            - **Complexity:** Requires careful planning and implementation to ensure security and control.
            - **Dependancy:** Dependancy on outside vendors to maintain network integrity.

The Internet and Its Uses:

- **Definition:**
    - The internet is a global network of interconnected computer networks that use the internet protocol suite (TCP/IP) to transmit data. It's essentially a vast system that links billions of devices worldwide.
- **Uses:**
    - **Communication:** Email, instant messaging, video conferencing, social media.
    - **Information Access:** Searching for information, online encyclopedias, news websites.
    - **E-commerce:** Online shopping, online banking, digital marketplaces.
    - **Entertainment:** Streaming music and videos, online gaming, social media.
    - **Education:** Online courses, research, virtual learning environments.
    - **Business:** Online marketing, remote work, cloud computing.

Advantages and Disadvantages of the Internet:

- **Advantages:**
    - **Global Communication:** Connects people worldwide instantly.
    - **Access to Information:** Provides a vast repository of knowledge.
    - **Enhanced Communication:** allows for many forms of communication.

  - **E-commerce and Online Business:** Facilitates online transactions and business operations.
  - **Remote Work and Collaboration:** Enables flexible work arrangements.
  - **Educational Resources:** Offers a wide range of learning opportunities.

- **Disadvantages:**
  - **Security Risks:** Vulnerability to cyberattacks, malware, and data breaches.
  - **Misinformation and Fake News:** Spread of inaccurate or misleading information.
  - **Privacy Concerns:** Collection and misuse of personal data.
  - **Internet Addiction:** Excessive internet use can lead to negative consequences.
  - **Cybercrime:** Online fraud, identity theft, and other criminal activities.
  - **Social Isolation:** Excessive online interaction can sometimes lead to decreased real world social interactions.

Requirements for Corporate Internet Connectivity:

To establish a robust internet connection for a corporation, the following hardware and software are essential:

- **Hardware:**
  - **High-Speed Internet Connection:**
    - Fiber-optic, cable, or dedicated internet access (DIA) lines.
  - **Router:**
    - A business-grade router to manage network traffic and security.
  - **Firewall:**
    - Hardware or software firewall to protect the network from unauthorized access.

- **Switches:**
    - To connect multiple devices within the local network.
- **Modem:**
    - To translate the internet signal from the internet service provider.
- **Wi-Fi Access Points:**
    - For wireless connectivity throughout the office.
- **Servers:**
    - For web hosting, email, and other online services.
- **Backup Power Supply (UPS):**
    - To ensure uninterrupted internet access during power outages.

- **Software:**
    - **Firewall Software:**
        - To supplement hardware firewalls and provide advanced security features.
    - **Antivirus and Anti-malware Software:**
        - To protect devices from online threats.
    - **VPN (Virtual Private Network):**
        - For secure remote access to the corporate network.
    - **Network Monitoring Software:**
        - To track network performance and identify potential issues.
    - **Web Filtering Software:**
        - To control access to specific websites and content.
    - **Email Security Software:**
        - To protect against spam and phishing attacks.

- **Operating systems:**
    - Up to date operating systems on all computers.

Web Browsers and Internet Addresses (URLs):

- **Web Browser:**
    - Think of a web browser as a window to the internet. It's a software application that allows you to access and view websites.
    - Examples: Google Chrome, Mozilla Firefox, Safari, Microsoft Edge.
    - **Function:**
        - It interprets the code (HTML) that websites are written in and displays it in a user-friendly way.
        - It allows you to navigate between web pages by clicking on links.
        - It handles the communication between your computer and the web server that hosts the website.

- **Internet Addresses (URLs - Uniform Resource Locators):**
    - A URL is like the address of a house on the internet. It tells your browser where to find a specific web page.
    - **Structure:**
        - `https://www.example.com/page.html`
            - `https://` (Protocol): This indicates the communication protocol used (HTTPS is secure).
            - `www.example.com` (Domain Name): This is the human-readable name of the website.
            - `/page.html` (Path): This specifies the location of a specific page within the website.
    - Knowing the URL allows you to directly travel to a specific webpage.

Searching Information on the Internet:

1. **Open a Web Browser:**
   - Launch your preferred web browser (e.g., Chrome, Firefox).
2. **Use a Search Engine:**
   - The most common way to find information is to use a search engine like Google, Bing, or DuckDuckGo.
   - Type the search engine's URL into the address bar (e.g., `www.google.com`).
3. **Enter Search Terms:**
   - In the search bar, type the keywords or phrases that describe what you're looking for.
   - Be specific to get more relevant results.
4. **Review Search Results:**
   - The search engine will display a list of web pages that it considers relevant to your search terms.
   - Read the titles and descriptions to find pages that seem promising.
5. **Click on Links:**
   - Click on the links to the web pages that you want to visit.
6. **Refine Your Search:**
   - If you don't find what you're looking for, try using different keywords or phrases.
   - use advanced search options. Most search engines have them.

Browser Functions to Surf the Internet:

- **Address Bar:**
  - Where you type URLs to visit websites.
- **Back and Forward Buttons:**
  - To navigate through your browsing history.

- **Refresh/Reload Button:**
    - To reload the current web page.
- **Tabs:**
    - To open multiple web pages in a single browser window.
- **History:**
    - To view a list of websites you've visited.
- **Settings:**
    - To customize your browser's appearance and behavior.
- **Incognito/Private Browsing:**
    - Browsing mode that does not save your browsing history or cookies.

Creating and Organizing a List of Favorites/Bookmarks:

- **Bookmarks/Favorites:**
    - These are shortcuts to websites that you want to save for easy access.
- **How to Create a Bookmark:**
    - **Visit the Website:** Go to the web page you want to save.
    - **Click the Bookmark/Star Icon:** Look for a star or bookmark icon in the address bar or browser menu.
    - **Save the Bookmark:** Choose a name for the bookmark and select a folder to save it in.
- **Organizing Bookmarks:**
    - **Create Folders:** Create folders to categorize your bookmarks (e.g., "Work," "News," "Recipes").
    - **Drag and Drop:** Drag and drop bookmarks into folders to organize them.
    - **Bookmark Managers:** Some browsers have built in bookmark managers to help organize very large amounts of bookmarks.

- **Bookmark Bars:** Most browsers have a bookmark bar that is located right below the address bar. This bar is for frequently used bookmarks.

Protecting Your Privacy Online:

The internet offers vast information, but it is crucial to protect your personal data. Here are key measures:

1. **Use Strong, Unique Passwords:**
    - Create complex passwords with a mix of uppercase and lowercase letters, numbers, and symbols.
    - Avoid using easily guessable information like birthdays or names.[1]
    - Use a different password for each online account.
    - Consider using a password manager to generate and store secure passwords.
2. **Enable Two-Factor Authentication (2FA):**
    - 2FA adds an extra layer of security by requiring a second form of verification (e.g., a code from your phone) in addition to your password.
    - Enable 2FA whenever possible.
3. **Be Cautious of Phishing Scams:**
    - Phishing emails and websites attempt to trick you into revealing personal information.
    - Be wary of suspicious emails or links, especially those asking for sensitive data.
    - Verify the sender's address and the website's URL before providing any information.
4. **Control Your Social Media Privacy:**

- Review your privacy settings on social media platforms and limit the information you share publicly.
- Be mindful of what you post and who can see it.
- Avoid sharing personal details like your address, phone number, or financial information.

5. **Use a Virtual Private Network (VPN):**
    - A VPN encrypts your internet traffic and hides your IP address, making it more difficult for others to track your online activity.
    - Use a reputable VPN service, especially when using public Wi-Fi.
6. **Keep Your Software Updated:**
    - Regularly update your operating system, web browser, and antivirus software to patch security vulnerabilities.
7. **Clear Your Browsing History and Cookies:**
    - Browsers store information about your online activity, including browsing history and cookies.
    - Periodically clear this data to reduce the amount of information that websites can collect about you.
8. **Be Mindful of Website Permissions:**
    - Websites often request permission to access your location, camera, or microphone.
    - Grant permissions only to trusted websites and apps.
9. **Read Privacy Policies:**
    - Before providing personal information to a website or app, read its privacy policy to understand how your data will be used.
10. **Use Secure Browsing (HTTPS):**
    - Always check that the website URL begins with "HTTPS" (not "HTTP"). The "S" signifies that the connection is encrypted.

Identifying and Selecting Communication Tools:

Choosing the right communication tool depends on the type of communication you need. Here is a breakdown:

- **Email:**
  - *Purpose:* Asynchronous communication, formal communication, sending documents or files.
  - *When to Use:* For detailed messages, official correspondence, or when a record of the communication is needed.
- **Instant Messaging (IM):**
  - *Purpose:* Real-time text-based communication, quick exchanges, informal conversations.
  - *When to Use:* For quick questions, coordinating tasks, or casual chats.
- **Video Conferencing:**
  - *Purpose:* Real-time audio and video communication, virtual meetings, presentations.
  - *When to Use:* For remote meetings, face-to-face interactions, or when visual communication is important.
- **Voice over IP (VoIP):**
  - *Purpose:* Voice communication over the internet, phone calls.
  - *When to use:* For low cost phone calls, or when integrating phone systems with computer networks.
- **Social Media:**
  - *Purpose:* Sharing information, connecting with others, building communities.
  - *When to Use:* For public announcements, social interactions, or marketing purposes.
- **Collaboration Platforms (e.g., Slack, Microsoft Teams):**
  - *Purpose:* Team communication, file sharing, project management.
  - *When to use:* For group projects, team coordination, or centralizing team communication.
- **File Sharing Services (e.g., Google Drive, Dropbox):**
  - *Purpose:* Sharing and collaborating on documents and files.

    - *When to use:* For collaborative projects, sharing large files, or backing up important data.
- **Online Forums/Discussion Boards:**
    - *Purpose:* Asynchronous discussions on specific topics, knowledge sharing.
    - *When to use:* For technical support, community discussions, or sharing information on niche topics.

Creating an Email Address with Data Protection Best Practices:

1. **Minimize Personal Information:**
    - Avoid including your full name, birthdate, or other sensitive information in your email address.
    - Instead, consider using a combination of initials, numbers, or a pseudonym.
2. **Use a Reputable Email Provider:**
    - Choose an email provider with a strong track record of privacy and security.
    - Look for providers that offer:
        - End-to-end encryption.
        - Two-factor authentication (2FA).
        - Clear and transparent privacy policies.
        - Options for data deletion.
    - Examples: ProtonMail, Tutanota, or even a well secured Gmail or Outlook account.
3. **Create Separate Email Addresses:**
    - Use different email addresses for different purposes:
        - Personal communications.

        - Work-related emails.
        - Online shopping and subscriptions.
        - Sensitive transactions (e.g., banking).
    - This helps to limit the amount of information associated with each address.
4. **Avoid Publicly Sharing Your Primary Email:**
    - Be cautious about posting your primary email address on public forums or social media.
    - Use a disposable email address for online forms or services that you don't fully trust.
5. **Review Privacy Settings:**
    - Configure your email account's privacy settings to limit data collection and tracking.
6. **Use a Strong Password:**
    - As always, create a strong, unique password for your email account.

Adopting Safe Behaviour When Managing Unwanted Emails and Phishing:

1. **Don't Click on Suspicious Links:**
    - Avoid clicking on links in emails from unknown senders or that seem suspicious.
    - Hover over links to see the actual URL before clicking.
    - If you're unsure, type the website's address directly into your browser.
2. **Don't Open Attachments from Unknown Senders:**
    - Attachments can contain malware or viruses.
    - Only open attachments from trusted sources.
3. **Be Wary of Urgent or Threatening Emails:**

- Phishing emails often create a sense of urgency or fear to trick you into acting quickly.
- Take a moment to evaluate the email before responding.

4. **Verify Sender Information:**
    - Check the sender's email address carefully.
    - Look for misspellings or unusual characters.
    - If you're unsure, contact the sender through a known and trusted method (e.g., phone).
5. **Don't Provide Personal Information:**
    - Legitimate organizations will rarely ask for sensitive information (e.g., passwords, credit card numbers) via email.
6. **Use Spam Filters:**
    - Enable and configure your email provider's spam filters.
    - Mark suspicious emails as spam.
7. **Report Phishing:**
    - Report phishing emails to your email provider and to the appropriate authorities.
8. **Keep Antivirus Software Updated:**
    - Make sure your antivirus software is up-to-date to protect against malware.

Sending Email Messages in an Adequate and Responsible Manner:

1. **Use a Clear and Concise Subject Line:**
    - The subject line should accurately reflect the content of the email.
2. **Address the Recipient Appropriately:**
    - Use the recipient's name and title (if applicable).

3. **Keep Your Message Brief and to the Point:**
    - Avoid unnecessary details or rambling.
4. **Use Proper Grammar and Spelling:**
    - Proofread your email before sending it.
5. **Be Professional and Courteous:**
    - Use a professional tone and avoid offensive language.
6. **Include a Signature:**
    - Add a signature with your name, contact information, and any relevant details.
7. **Use the "Reply All" Function Sparingly:**
    - Only use "Reply All" when your response is relevant to everyone in the conversation.
8. **Be Mindful of Attachments:**
    - Compress large files before sending them.
    - Clearly label attachments.
9. **Respect Privacy:**
    - Avoid forwarding emails without the sender's permission.
    - Be cautious about sharing sensitive information via email.
10. **Consider the Tone:**
    - Email can be easily misconstrued. read your email back to yourself before sending it to ensure that your tone is correct.

Using "To," "Cc," and "Bcc" Adequately:

- **"To" Field:**
    - This field is for the primary recipient(s) of the email.
    - These are the people who are expected to take action or respond to the email.
    - Use this field for the main person or people you want to directly address.
- **"Cc" (Carbon Copy) Field:**
    - "Cc" is for people who need to be informed of the email's content but are not necessarily expected to take action.
    - It's a way to keep others in the loop.
    - Everyone in the "To" and "Cc" fields can see all the email addresses listed.
    - Example: You are emailing your manager, and cc a coworker that needs to be aware of the information.
- **"Bcc" (Blind Carbon Copy) Field:**
    - "Bcc" is for people who need to receive a copy of the email, but you don't want the other recipients to know they received it.
    - It's used for privacy and to avoid revealing email addresses to a large group.
    - Recipients in the "To" and "Cc" fields cannot see the email addresses in the "Bcc" field.
    - Example: You are sending out a mass email, and want to protect the recipients privacy.

Attaching Documents to an Email:

1. **Compose Your Email:**
   - Write your email message as usual.
2. **Locate the "Attach" Button:**
   - Most email clients have an "Attach" button or paperclip icon.
3. **Select the File(s):**
   - Browse your computer or storage device to find the file(s) you want to attach.
   - Select the file(s) and click "Open" or "Attach."
4. **Verify the Attachment(s):**
   - Ensure the correct file(s) are attached and that the file size is within the email provider's limits.
5. **Send the Email:**
   - Once you're satisfied, send the email.

Opening Attachments Safely and Saving Them:

1. **Scan for Viruses:**
   - Before opening any attachment, especially from an unknown sender, scan it with your antivirus software.
2. **Be Cautious of File Types:**
   - Be particularly cautious of executable files (.exe), script files (.vbs), and macro-enabled documents (.docm). These file types can pose a higher security risk.
3. **Preview Attachments (If Possible):**
   - Some email clients allow you to preview attachments before opening them. Use this feature to get a quick glimpse of the content.
4. **Save Attachments to a Safe Location:**

    - Instead of opening attachments directly from the email, save them to a safe location on your computer or storage device.
    - Create a dedicated folder for downloaded attachments.
5. **Save to Another Storage Device or Cloud Storage:**
    - For important attachments, consider saving a copy to an external hard drive, USB drive, or cloud storage service.
    - This provides an extra layer of backup in case your computer experiences a problem.
6. **Rename Files Appropriately:**
    - Rename downloaded files so that they are easily identified.
7. **Keep Software Updated:**
    - Make sure that your operating system, and any programs that open attachments, are up to date. This will patch any known security vulnerabilities.

Creating and Organizing a Contact List with Groups:

1. **Choose a Tool:**
    - **Email Client (e.g., Gmail, Outlook):** Most email clients have built-in contact management features that allow you to create contact lists and groups (often called "distribution lists" or "contact groups").
    - **Contact Management Software (CRM):** If you need more advanced features, consider using a CRM (Customer Relationship Management) system. These systems offer robust contact management, including grouping, tagging, and tracking interactions.
    - **Spreadsheet (e.g., Excel, Google Sheets):** For basic contact management, you can use a spreadsheet to create a list of contacts and add a column for group assignments.

    - **Python:** As demonstrated in the previous response, you can create a python script that will store contact information, and organize those contacts into groups.
2. **Add Contacts:**
    - Enter the contact's name, email address, and any other relevant information (e.g., phone number, company, address).
3. **Create Groups:**
    - Create groups based on your needs (e.g., "Clients," "Suppliers," "Team Members," "Friends").
    - Give each group a descriptive name.
4. **Assign Contacts to Groups:**
    - Add each contact to the appropriate group(s).
    - A contact can belong to multiple groups.
5. **Maintain and Update:**
    - Regularly update your contact list to ensure accuracy.
    - Remove contacts that are no longer relevant.
    - Add new contacts as needed.

Setting Up an Online Presence and Social Media Networking for Business:

1. **Blogs:**
    - **Purpose:** Share valuable content, establish thought leadership, drive traffic to your website.
    - **Platforms:** WordPress, Medium, Blogger.
    - **Content:** Create informative and engaging blog posts related to your industry or business.
    - **Promotion:** Share your blog posts on social media and other platforms.

2. **Wikis:**
    - **Purpose:** Create a collaborative knowledge base, share internal information, build a community.
    - **Platforms:** MediaWiki, Confluence, Notion.
    - **Content:** Develop a wiki with information about your company, products, or services.
    - **Collaboration:** Encourage employees or customers to contribute to the wiki.
3. **Podcasts:**
    - **Purpose:** Share audio content, build brand awareness, connect with your audience.
    - **Platforms:** Spotify, Apple Podcasts, Google Podcasts.
    - **Content:** Create audio episodes related to your industry or business.
    - **Promotion:** Promote your podcast on social media and other platforms.

Social Media Networking:

1. **Choose the Right Platforms:**
    - Select social media platforms that are relevant to your target audience.
    - Examples: LinkedIn (professional networking), Facebook (general audience), Twitter (news and updates), Instagram (visual content).
2. **Create a Professional Profile:**
    - Use a professional profile picture and cover photo.
    - Write a compelling bio that highlights your business and expertise.
3. **Share Valuable Content:**
    - Post relevant articles, blog posts, and industry news.
    - Engage with your audience by responding to comments and messages.
4. **Network and Build Relationships:**
    - Connect with other professionals in your industry.

    - Join relevant groups and participate in discussions.
5. **Use Social Media for Customer Service:**
    - Respond to customer inquiries and complaints promptly.
    - Use social media to provide customer support.
6. **Track Your Results:**
    - Monitor your social media analytics to see what's working and what's not.
    - Adjust your strategy as needed.

Cloud Computing :

Imagine you have a big, powerful computer somewhere else, not in your own home or office. You can access and use this computer over the internet. That's essentially cloud computing.

Instead of storing files and running programs on your own computer, you're using resources that are located "in the cloud" (which just means on remote servers).

Characteristics of Cloud Computing:

1. **On-Demand Self-Service:**
    - You can access and use cloud resources whenever you need them, without needing to ask anyone for permission.
    - It's like renting a car – you get it when you want it.
2. **Broad Network Access:**
    - Cloud services are accessible from anywhere with an internet connection, using various devices (computers, smartphones, tablets).
    - It's like having a library that's open 24/7, wherever you are.
3. **Resource Pooling:**
    - The cloud provider shares its computing resources among many users.

    - It's like sharing a large apartment building – everyone gets their own space, but they share the building's infrastructure.

4. **Rapid Elasticity:**
    - You can easily scale up or down your cloud resources as needed.
    - If you need more storage or computing power, you can get it quickly. If you need less, you can reduce it.
    - It's like having a flexible workspace – you can add or remove desks as your team grows or shrinks.
5. **Measured Service:**
    - You pay only for the cloud resources you use.
    - It's like paying for electricity – you pay for how much you consume.

How Data is Stored, Managed, and Shared on the Cloud :

1. **Storing Data:**
    - Imagine a giant digital filing cabinet in a secure building. That's where your data is stored in the cloud.
    - Instead of saving files on your computer's hard drive, you're saving them on these remote servers.
    - The cloud provider makes sure the data is backed up and protected.
2. **Managing Data:**
    - The cloud provider takes care of the technical stuff, like keeping the servers running, updating software, and ensuring security.
    - They use special software to organize and manage the data in the digital filing cabinet.
    - They also provide tools that allow you to manage your own data, like creating folders and setting permissions.
3. **Sharing Data:**

    - You can share files and folders with others by giving them access to the digital filing cabinet.
    - You can set permissions to control who can view, edit, or download your files.
    - Cloud services often provide features for collaborating on documents in real-time.
    - It's like having a shared document that multiple people can work on at the same time.
4. **Accessing Data:**
    - To get your data you simply log into your cloud account from any device with an internet connection.
    - You can then download, edit, or upload files as needed.
    - It's like accessing your files from any computer in the world.

Advantages of Cloud Computing:

- **Cost Savings:**
    - Reduces the need for expensive hardware and software.
    - Pay-as-you-go model eliminates upfront costs.
    - Lower maintenance and IT support expenses.
- **Scalability and Flexibility:**
    - Easily scale resources up or down based on demand.
    - Quickly adapt to changing business needs.
    - Access to a wide range of services and applications.
- **Accessibility:**
    - Access data and applications from anywhere with an internet connection.
    - Enables remote work and collaboration.

- Consistent experience across multiple devices.
- **Increased Collaboration:**
    - Facilitates real-time collaboration on documents and projects.
    - Easy sharing of files and information.
- **Automatic Updates:**
    - Cloud providers handle software updates and maintenance.
    - Ensures access to the latest features and security patches.
- **Disaster Recovery:**
    - Data backups and recovery are handled by the cloud provider.
    - Minimizes downtime and data loss in case of disasters.

Disadvantages of Cloud Computing:

- **Internet Dependency:**
    - Requires a stable internet connection for access.
    - Downtime can occur if the internet connection is unreliable.
- **Security and Privacy Concerns:**
    - Data is stored on third-party servers, raising security concerns.
    - Risk of data breaches and unauthorized access.
    - Concerns about data privacy and compliance.
- **Vendor Lock-in:**
    - Switching cloud providers can be complex and costly.
    - Dependence on a single vendor can limit flexibility.
- **Limited Control:**
    - Less control over hardware and software infrastructure.
    - Dependence on the cloud provider's policies and procedures.

- **Performance Issues:**
  - Performance can be affected by internet latency and network congestion.
  - Potential for downtime or service disruptions.
- **Compliance:**
  - Depending on the industry, there can be very strict compliance rules about where data is stored.

Cloud Service Providers and Their Products for Business:

1. **Amazon Web Services (AWS):**
   - **Products:**
     - **EC2 (Elastic Compute Cloud):** Virtual servers for running applications.
     - **S3 (Simple Storage Service):** Object storage for data and files.
     - **RDS (Relational Database Service):** Managed database services.
     - **Lambda:** Serverless computing platform.
     - Many other services for networking, analytics, and AI.
   - AWS is very popular for its large selection of services.
2. **Microsoft Azure:**
   - **Products:**
     - **Virtual Machines:** Infrastructure as a Service(IaaS) virtual servers.
     - **Azure Storage:** Storage solutions for various data types.
     - **Azure SQL Database:** Managed SQL database service.
     - **Azure Active Directory:** Identity and access management.
     - Microsoft 365 integration.
   - Azure is very popular with businesses that already use Microsoft products.
3. **Google Cloud Platform (GCP):**

- **Products:**
    - **Compute Engine:** Virtual machines.
    - **Cloud Storage:** Object storage.
    - **Cloud SQL:** Managed relational databases.
    - **Kubernetes Engine:** Container orchestration.
    - BigQuery: Data warehousing and analytics.
- GCP is very popular with companies that require heavy data analysis.

4. **Salesforce:**
    - **Products:**
        - **Sales Cloud:** CRM for sales management.
        - **Service Cloud:** Customer service and support.
        - **Marketing Cloud:** Marketing automation and analytics.
        - **Platform Cloud:** Platform for building custom applications.
    - Salesforce is very popular with companies that need CRM solutions.
5. **Oracle Cloud Infrastructure (OCI):**
    - **Products:**
        - Compute, storage, networking, and database services.
        - Oracle database cloud services.
        - Applications like ERP, HCM, and CRM.
    - Oracle cloud is popular with companies that use oracle databases.

Virtual Business Tools (Zoom, Microsoft Teams):

These tools are crucial for modern business communication and collaboration, especially in remote work environments.

- **Zoom:**
  - **Purpose:** Primarily known for video conferencing, but also offers chat, screen sharing, and webinar capabilities.
  - **Key Features:**
    - High-quality video and audio.
    - Screen sharing and annotation.
    - Virtual backgrounds.
    - Breakout rooms for smaller group discussions.
    - Recording capabilities.
  - **Use Cases:**
    - Virtual meetings and conferences.
    - Webinars and online presentations.
    - Online training and education.
- **Microsoft Teams:**
  - **Purpose:** A comprehensive collaboration platform that integrates chat, video conferencing, file sharing, and application integration.
  - **Key Features:**
    - Team chat and channels.
    - Video and audio conferencing.
    - File sharing and co-authoring.
    - Integration with Microsoft 365 apps.
    - Task management.
  - **Use Cases:**
    - Team collaboration and communication.

        - Project management.
        - Internal communication and information sharing.
        - Virtual meetings and conferences.

Telecommuting:

Telecommuting is the practice of working from a location outside of a traditional office environment, typically from home, using technology to communicate and collaborate with colleagues.

Advantages of Telecommuting:

- **Increased Flexibility:**
    - Employees can work flexible hours and manage their own schedules.
    - Improved work-life balance.
- **Reduced Commuting Time and Costs:**
    - Saves time and money on commuting.
    - Reduces stress associated with commuting.
- **Increased Productivity:**
    - Fewer distractions and interruptions.
    - Improved focus and concentration.
- **Expanded Talent Pool:**
    - Companies can hire employees from anywhere in the world.
    - Access to a wider range of skills and experience.
- **Reduced Overhead Costs:**
    - Companies can save on office space, utilities, and other overhead expenses.
- **Environmental Benefits:**

    - Reduced traffic congestion and carbon emissions.
- **Improved Employee Morale:**
    - Increased job satisfaction.

Disadvantages of Telecommuting:

- **Communication Challenges:**
    - Difficulty in maintaining effective communication and collaboration.
    - Potential for miscommunication and misunderstandings.
- **Isolation and Loneliness:**
    - Employees may feel isolated and disconnected from their colleagues.
    - Lack of social interaction.
- **Distractions at Home:**
    - Potential for distractions from family, pets, or household chores.
    - Difficulty in separating work and personal life.
- **Difficulty in Monitoring Productivity:**
    - Challenges in monitoring employee productivity and performance.
    - Requires trust and accountability.
- **Technical Issues:**
    - Potential for technical problems with internet access, hardware, or software.
    - Requires reliable technology and support.
- **Security Risks:**
    - Increased risk of data breaches.
    - Security protocols must be in place.
- **Work-Life Imbalance:**
    - Some people have a hard time separating work from home life.

LEARNING OUTCOME 2

Switching On a Computer:

- **Cold Boot:**
  - This is when your computer is completely turned off.
  - **How to do it:**
    - Find the power button on your computer (usually a button with a power symbol).
    - Press the power button.
    - Wait for your computer to start up. This might take a little while.
  - Think of it like starting a car that's been parked for a long time.

- **Warm Boot (Restart):**
  - This is when your computer is already on, but you want to restart it.
  - **How to do it:**
    - Most operating systems allow you to restart from the start menu, or by pressing a combination of keys (like Ctrl + Alt + Delete on some Windows systems).
    - Choose the "Restart" option.
    - Your computer will turn off and then turn back on automatically.
  - Think of it like restarting a car that's already running.

Putting a Computer on Sleep Mode:

- Sleep mode is like putting your computer into a very low-power state.
- It keeps your open programs and files in memory, so you can quickly resume where you left off.
- **How to do it:**
    - On most computers:
        - Go to the start menu (or the Apple menu on a Mac).
        - Look for a "Sleep" or "Suspend" option.
        - Select it.
    - On many laptops, closing the lid will automatically put the computer into sleep mode.
- **What happens:**
    - Your computer's screen will turn off.
    - The hard drive and other components will slow down or turn off.
    - Your computer will use very little power.
- **Waking up:**
    - To wake your computer up, simply press a key on the keyboard, move the mouse, or press the power button.
    - Your computer will quickly return to where you left off.
    - Think of it like pausing a movie.

Changing Your Desktop Background (Wallpaper):

- **Windows:**
  - Right-click on an empty area of your desktop.
  - Select "Personalize."
  - In the "Background" section, you can choose:
    - "Picture" to select a single image.
    - "Solid colour" to use a plain colour.
    - "Slideshow" to have a rotating selection of images.
  - Browse to the image you want to use and select it.
- **macOS:**
  - Click the Apple menu in the top-left corner and select "System Settings" (or "System Preferences" in older versions).
  - Click "Wallpaper."
  - Choose a wallpaper from the provided options or click the "+" button to add your own image.

Correcting Date and Time:

- **Windows:**
  - Right-click on the date and time display in the bottom-right corner of your taskbar.
  - Select "Adjust date/time."
  - You can:
    - Toggle "Set time automatically" on or off.
    - Manually set the date and time.
    - Change the time zone.
- **macOS:**

- Click the Apple menu and select "System Settings" (or "System Preferences").
- Click "Date & Time."
- You can:
  - Toggle "Set time and date automatically" on or off.
  - Manually set the date and time.
  - Change the time zone.

Pinning Programs to the Taskbar:

- **Windows:**
  - Find the program you want to pin (either in the Start menu or by searching).
  - Right-click on the program.
  - Select "Pin to taskbar."
  - To unpin a program, right-click on its icon on the taskbar and select "Unpin from taskbar."
- **macOS:**
  - When a program is running, its icon appears in the Dock (which is similar to the taskbar).
  - Right-click (or Control-click) on the program's icon in the Dock.
  - Select "Options" and then "Keep in Dock."
  - To remove an icon, drag it off the dock.

Sorting Desktop Icons:

- **Windows:**
  - Right-click on an empty area of your desktop.
  - Select "Sort by."
  - Choose how you want to sort the icons (e.g., by name, size, item type, date modified).
  - You can also click view, and choose to allign icons to a grid.
- **macOS:**
  - Right-click (or Control-click) on an empty area of your desktop.
  - Select "Sort By."
  - Choose how you want to sort the icons (e.g., by name, kind, date modified, size).
  - You can also click "Clean up by" to have the icons allign to a grid.

Creating and Renaming a Folder:

- **Create a Folder:**
  - **Windows:**
    - Right-click in the location where you want to create the folder (e.g., on the desktop, in a file explorer window).
    - Select "New" and then "Folder."
    - Type a name for the folder and press Enter.
  - **macOS:**
    - Right-click (or Control-click) in the desired location.
    - Select "New Folder."
    - Type a name and press Return.
- **Rename a Folder:**
  - **Windows:**

        - Right-click on the folder.
        - Select "Rename."
        - Type the new name and press Enter.
    - **macOS:**
        - Click on the folder's name, or right click and select "Rename".
        - Type the new name and press Return.

Copy a File into a Folder:

- Right-click on the file you want to copy.
- Select "Copy."
- Navigate to the folder where you want to place the copy.
- Right-click inside the folder and select "Paste."

Duplicate Folders:

- Right-click on the folder.
- Select "Copy."
- Right-click in the location where you want the duplicate.
- Select "Paste."

Transfer Files from Removable Storage to Computer and Back:

- **From Removable Storage to Computer:**
    - Connect the removable storage device (e.g., USB drive) to your computer.
    - Open File Explorer (Windows) or Finder (macOS) and locate the removable drive.
    - Navigate to the files you want to transfer.

    - Copy or drag and drop the files to the desired location on your computer.
- **From Computer to Removable Storage:**
    - Connect the removable storage device to your computer.
    - Open File Explorer (Windows) or Finder (macOS) and locate the files you want to transfer.
    - Copy or drag and drop the files to the removable drive.

Delete Files and Folders:

- Right-click on the file or folder.
- Select "Delete."
- Confirm the deletion if prompted.

Recover Files from Recycle Bin:

- **Windows:**
    - Open the "Recycle Bin" on your desktop.
    - Right-click on the file you want to recover.
    - Select "Restore."
- **macOS:**
    - Open the "Trash" icon in the Dock.
    - Right-click (or Control-click) on the file.
    - Select "Put Back."

Open and Import Files of Different Types:

- Double-click on the file.
- If the file type is recognized, it will open in the associated application.

- Some applications have import features that allow you to open files of different formats (e.g., importing a .csv file into Excel).

Save Files Using Appropriate Filenames:

- When saving a file, use a filename that is:
  - Descriptive: Clearly indicates the file's content.
  - Concise: Avoid overly long filenames.
  - Consistent: Follow a naming convention.
  - Avoid special characters: Stick to letters, numbers, underscores, and hyphens.

Save and Export in the File Format of an Application Package:

- **Saving:**
  - In the application (e.g., Word, Excel, PowerPoint, Access), go to "File" and select "Save" or "Save As."
  - Choose the desired file format from the "Save as type" (Windows) or "File Format" (macOS) dropdown menu.
  - Examples:
    - .docx (Microsoft Word document)
    - .doc (Older Microsoft Word document)
    - .xls or .xlsx (Microsoft Excel spreadsheet)
    - .accdb (Microsoft Access database)
    - .pptx (Microsoft PowerPoint presentation)
- **Exporting:**
  - Some applications have an "Export" option in the "File" menu.
  - Exporting is used when you need to save a file in a different format that is not the programs native file type.

- This is often used to create PDF files, or other file types.

Setting a Default Printer :

Setting a default printer ensures that whenever you print from an application, the document automatically goes to that printer unless you specify otherwise. Here is how to do it in Windows and macOS:

Windows:

1. **Open Settings:**
   - Click the Start button (Windows logo) in the bottom-left corner of your screen.
   - Click the gear icon (Settings).
2. **Go to Devices:**
   - In the Settings window, click "Devices."
3. **Select Printers & Scanners:**
   - In the left-hand menu, click "Printers & scanners."
4. **Choose Your Printer:**
   - You'll see a list of installed printers. Click on the printer you want to set as the default.
5. **Manage the Printer:**
   - Click the "Manage" button.
6. **Set as Default:**
   - Click the "Set as default" button.
7. **Let Windows Manage my Default Printer:**

- Windows has a setting that allows windows to manage your default printer. If you want to manage it yourself, make sure that the option that says "Let Windows manage my default printer" is unchecked.

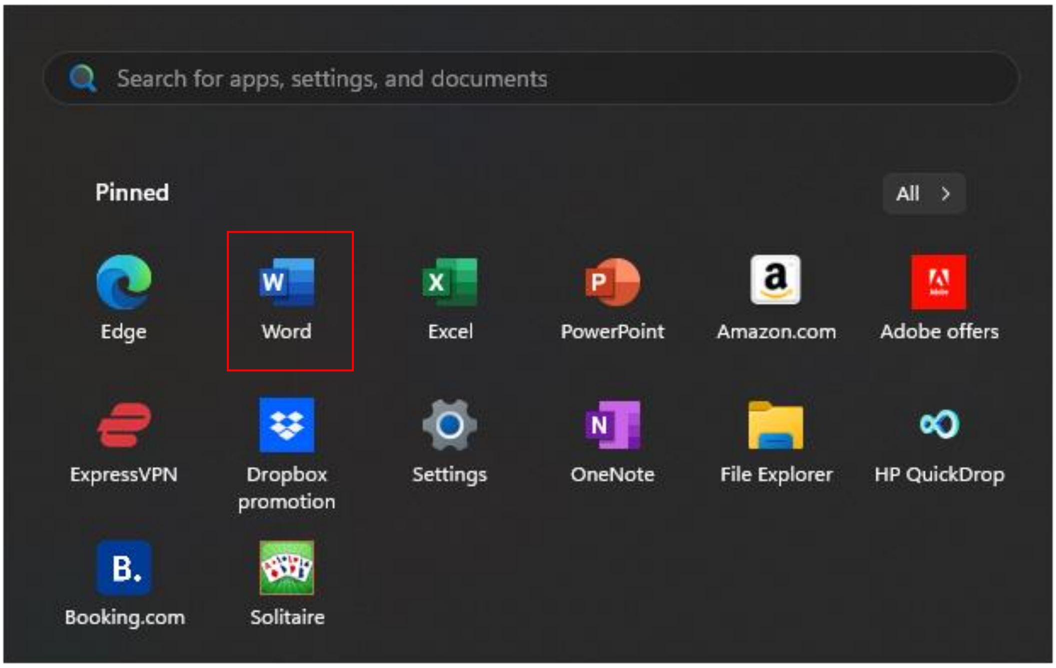
macOS:

1. **Open System Settings (or System Preferences):**
    - Click the Apple menu in the top-left corner of your screen.
    - Select "System Settings" (or "System Preferences" in older macOS versions).
2. **Go to Printers & Scanners:**
    - In System Settings, click "Printers & Scanners" in the sidebar.
3. **Select Default Printer:**
    - At the bottom of the "Printers & Scanners" window, you'll see a dropdown menu labeled "Default printer."
    - Click the dropdown menu and select the printer you want to use as the default.

Word Processor.

1. Loading a Word Processor:

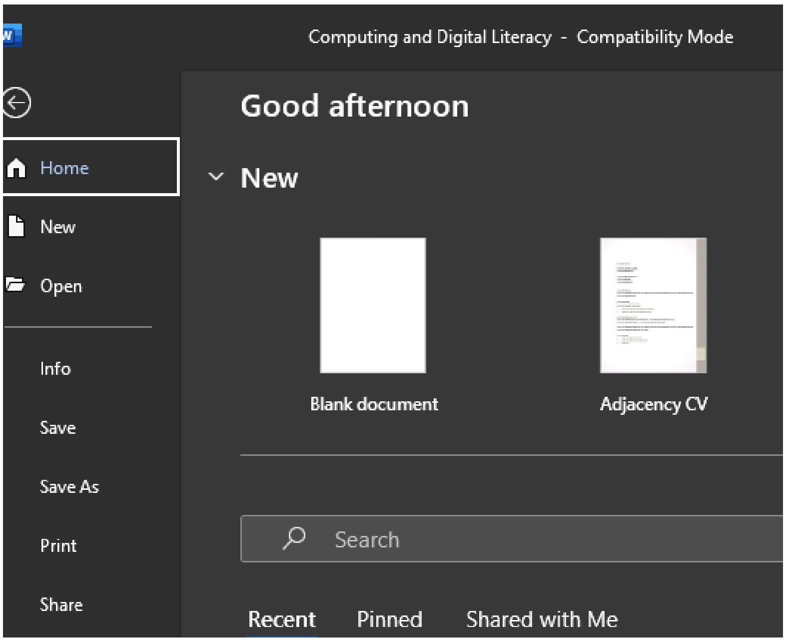
- **Action:**
  - Find the icon for your chosen word processor (e.g., Microsoft Word, Google Docs, LibreOffice Writer).
  - Double-click the icon to open the program.
- **Result:**
  - The word processor application window will appear on your screen.



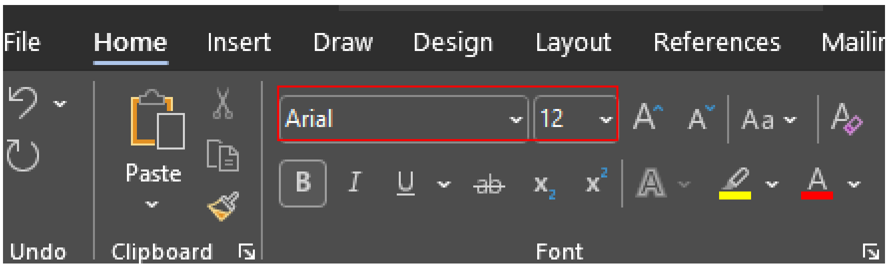
2. Creating a New Document, Formatting Text and Paragraphs:

- **Creating a New Document:**
  - **Action:**
    - In the word processor, click "File" in the top menu.
    - Select "New" or "New Document."
    - Choose "Blank Document" (or a similar option).

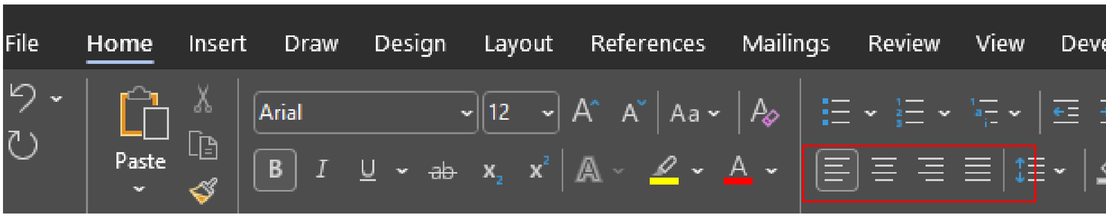
- **Result:**
    - A new, empty document will open.



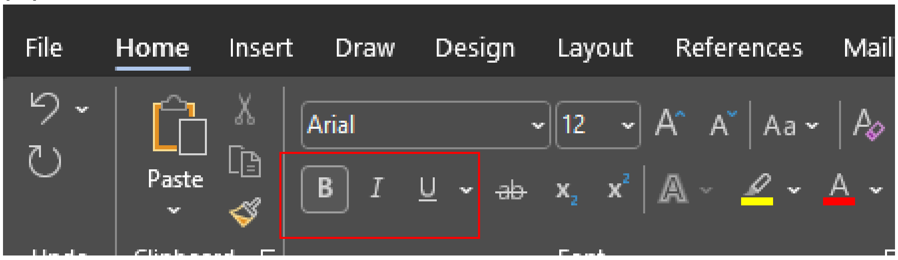
- **Formatting Text and Paragraphs:**
  - **Action:**
    - Type some text into the document.
    - Select the text you want to format (click and drag).
    - **Font:** Use the font dropdown menu to change the font type (e.g., Arial, Times New Roman). Use the number box next to it to change the font size. Use the colour selector to change the font colour.



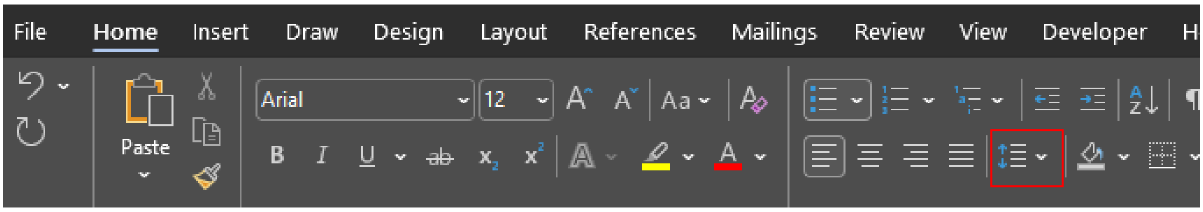
    - **Text Alignment:** Click the alignment buttons (left, canter, right, justify) in the toolbar.



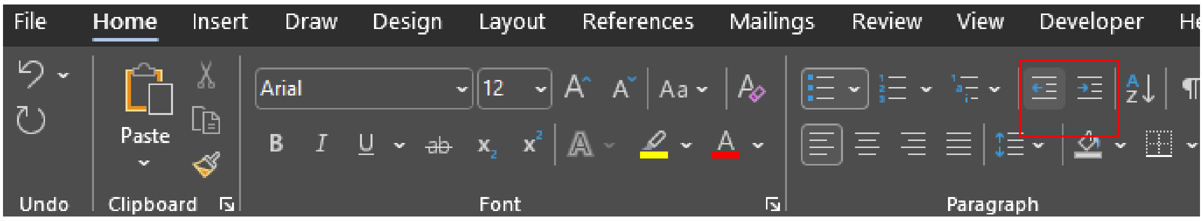
- **Text Enhancement:** Click the bold (B), italic (I), and underline (U) buttons.



- **Paragraph Formatting:**
    - Select the paragraph(s) you want to format.
    - Use the line spacing button to adjust the spacing between lines.



    - Use the indent buttons to increase or decrease paragraph indents.

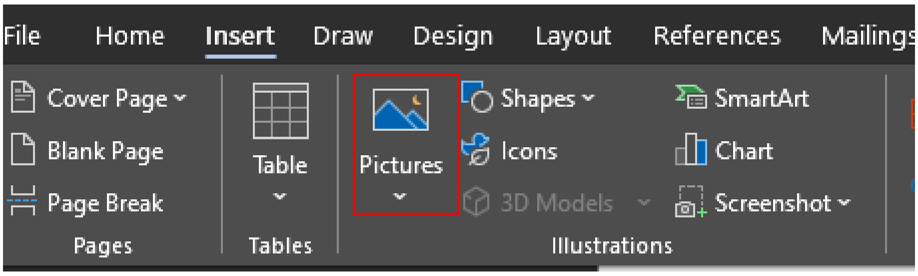


    - Use the paragraph settings menu to change the spacing before or after the paragraph.

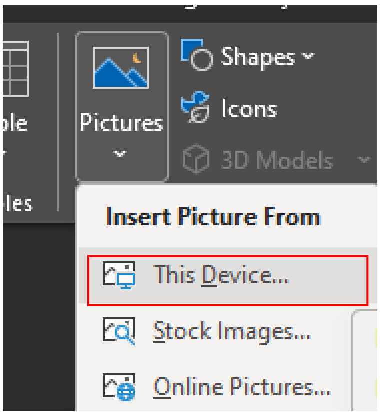
- **Result:**
    - The selected text and paragraphs will be formatted according to your chosen options.

3. Working with Text and Pictures:

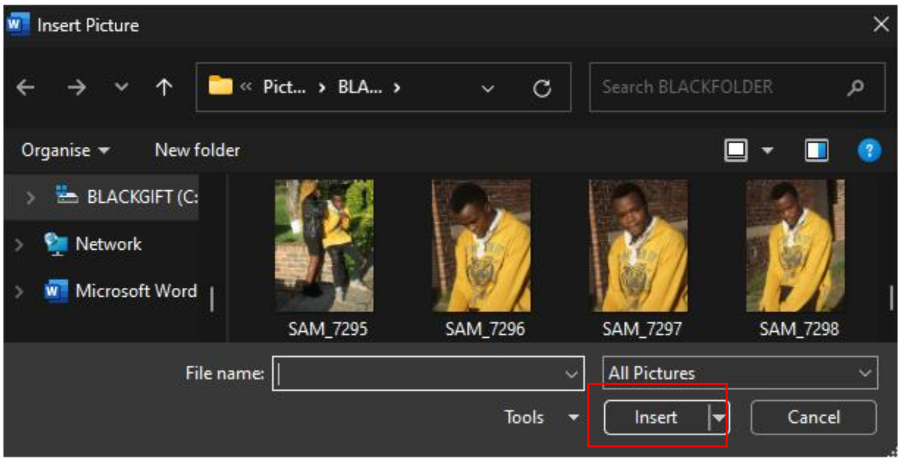
- **Inserting Pictures:**
  - **Action:**
    - Click "Insert" in the top menu.



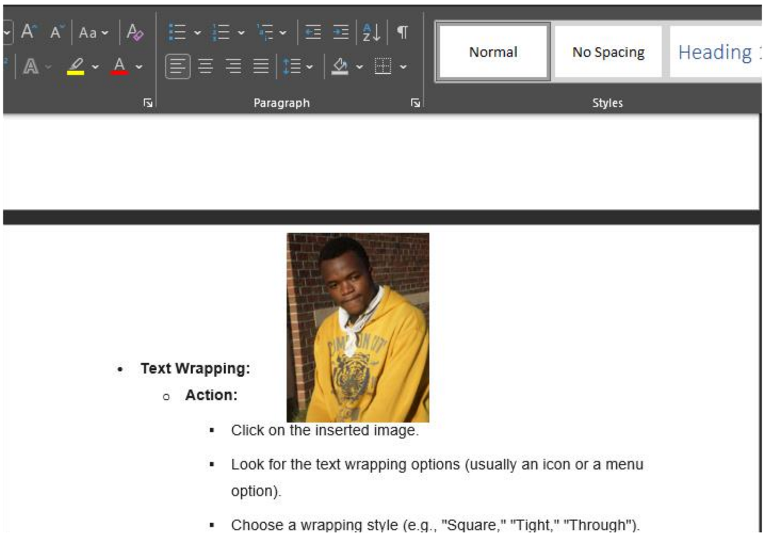
    - Select "Picture" or "Image."

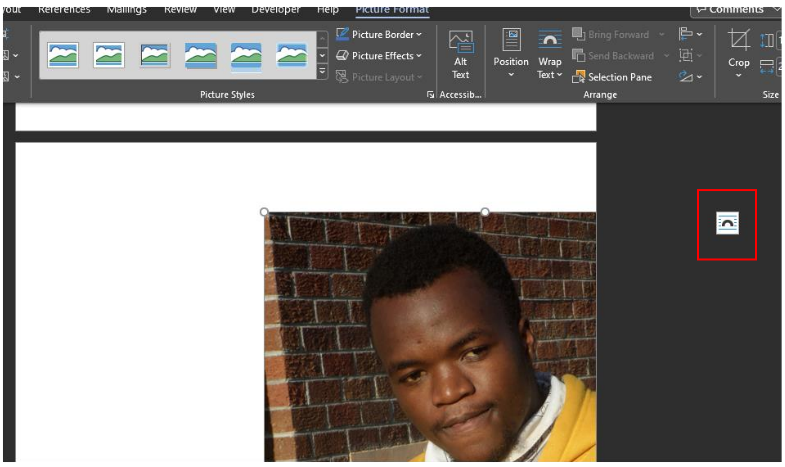


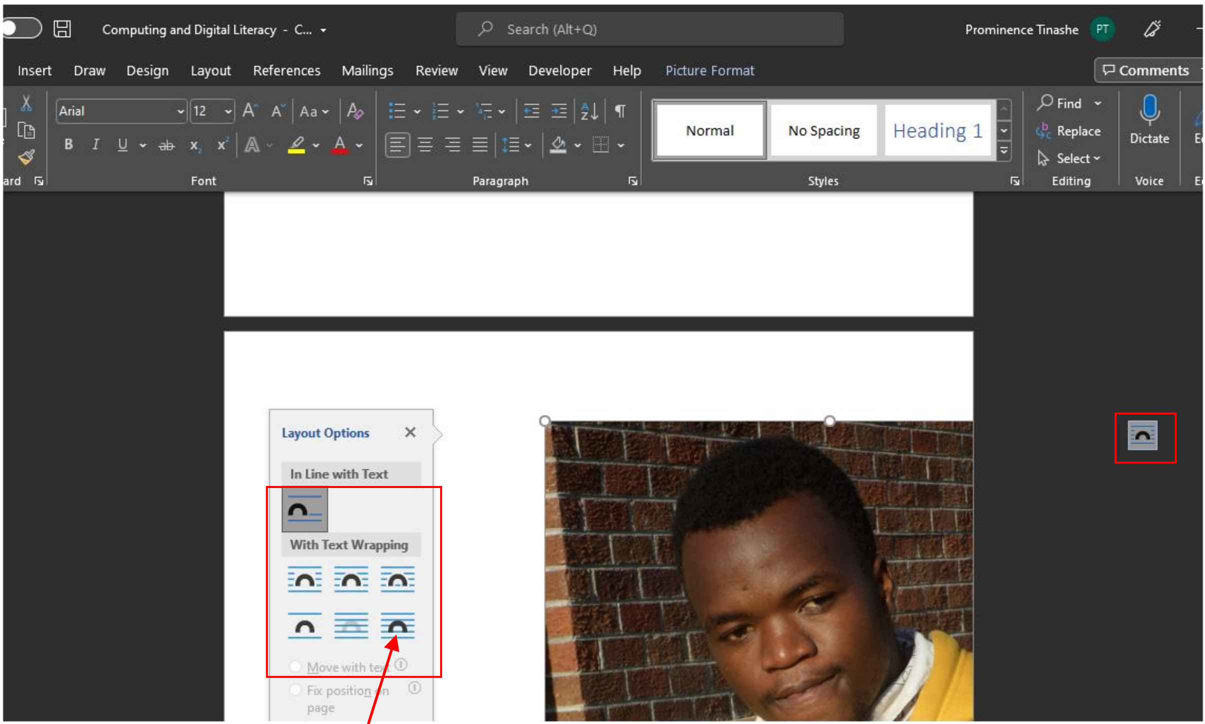
    - Browse to the image file on your computer and click "Insert."



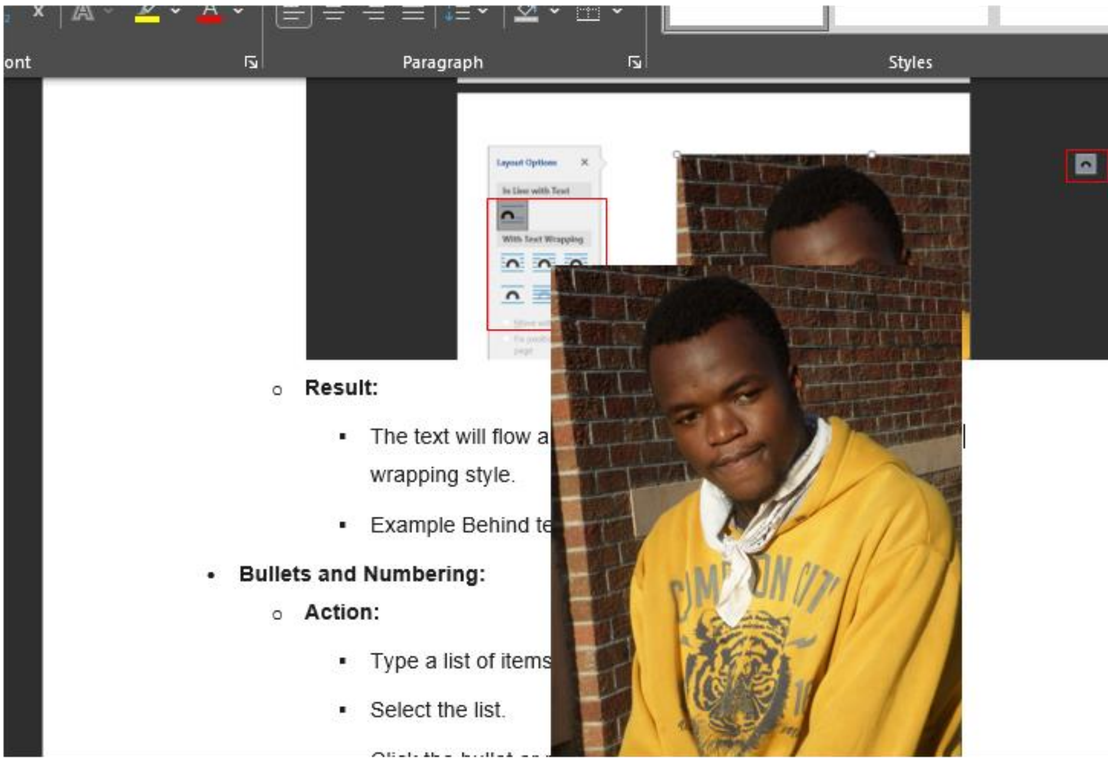
  - **Result:**
    - The image will appear in your document.



- **Text Wrapping:**
    - **Action:**
        - Click on the inserted image.
        - Look for the text wrapping options (usually an icon or a menu option).
        - Choose a wrapping style (e.g., "Square," "Tight," "Through").
    - 

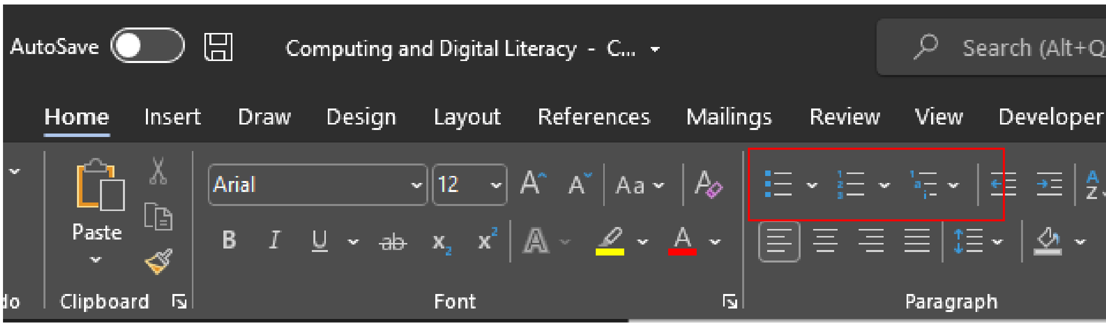


- ○ **Result:**
  - ▪ The text will flow around the image according to the selected wrapping style.
  - ▪ Example Infront of text



- **Bullets and Numbering:**

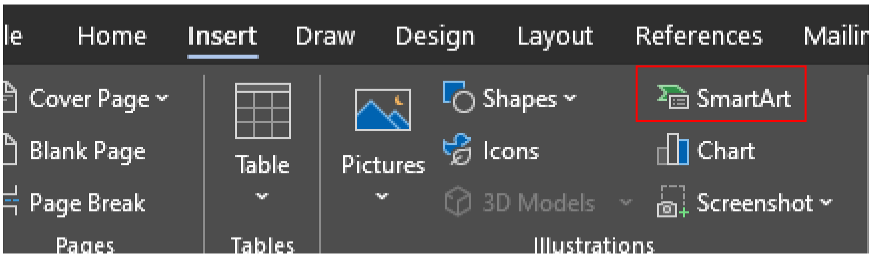
- **Action:**
  - Type a list of items.
  - Select the list.
  - Click the bullet or numbering button in the toolbar.



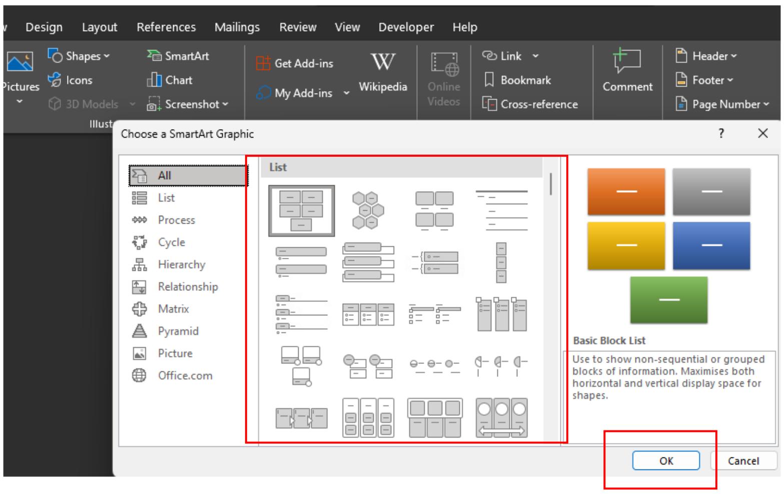
- **Result:**
  - The list will be formatted with bullets or numbers.

4. Creating and Formatting SmartArt:

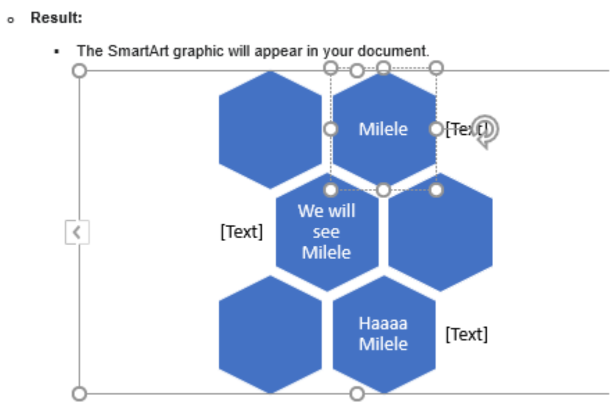
- **Inserting SmartArt:**
  - **Action:**
    - Click "Insert" in the top menu.
    - Select "SmartArt."



    - Choose a SmartArt graphic from the gallery.
    - Click "OK."



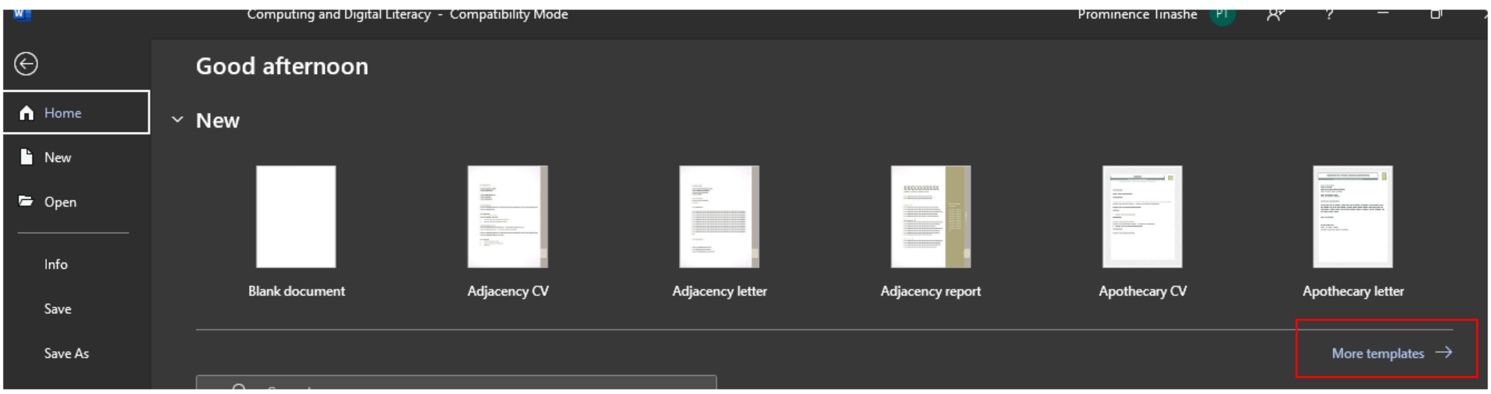
- **Result:**
    - The SmartArt graphic will appear in your document.

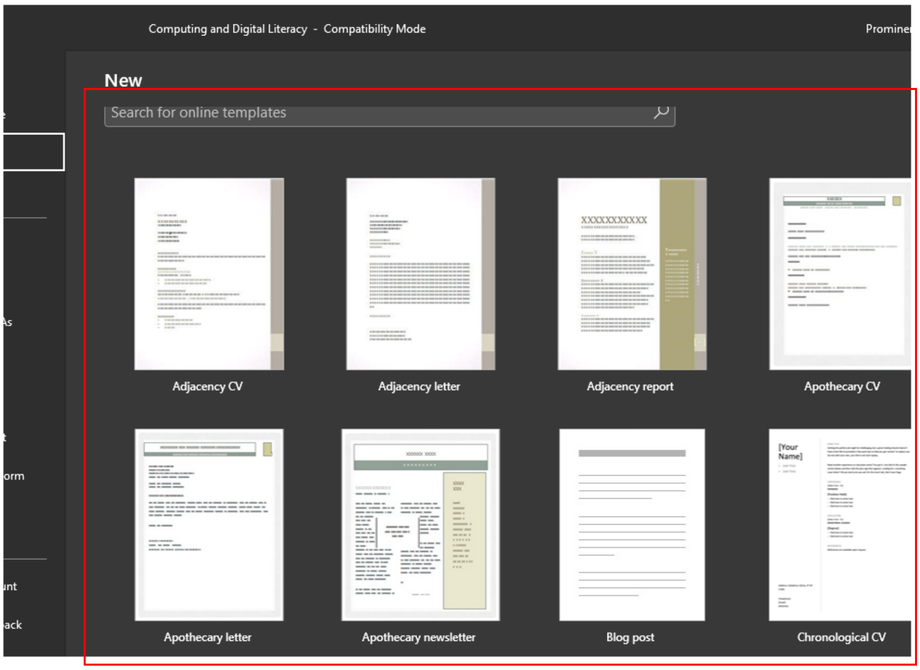


- **Formatting SmartArt:**
  - **Action:**
    - Click on the SmartArt graphic.
    - Use the SmartArt design and format tabs to change colours, styles, and layouts.
  - **Result:**
    - The SmartArt graphic will be customized according to your changes.

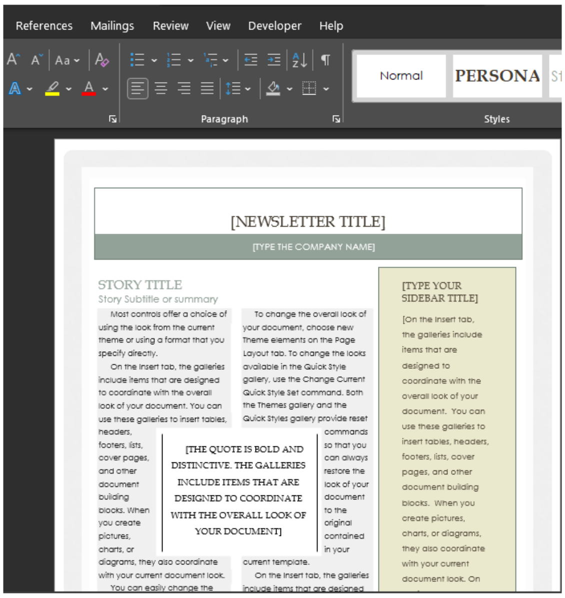
5. Using and Editing Templates:

- **Using Templates:**
  - **Action:**
    - Click "File" > "New."
    - Search for or browse available templates.
    - Select a template and click "Create."



- 

- **Result:**
  - A new document will open, based on the selected template.

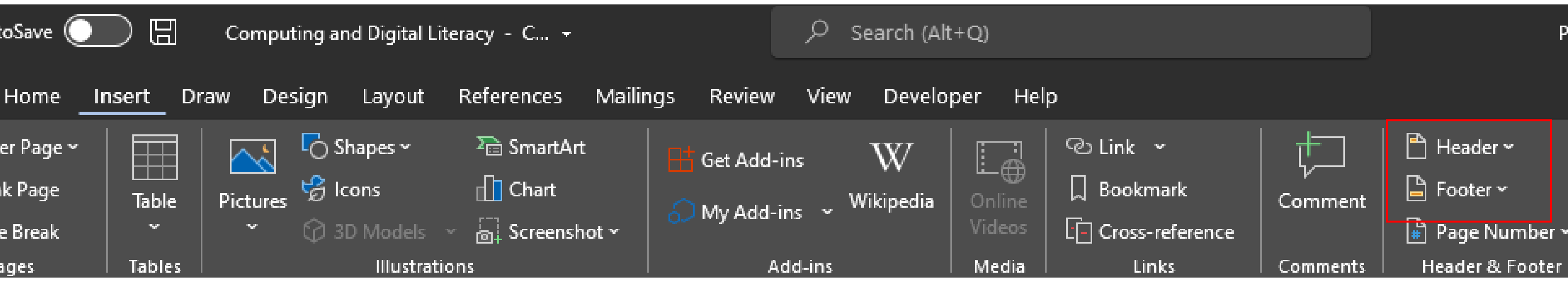


- **Editing Templates:**
  - **Action:**
    - Click on the template's placeholders and replace them with your own content.
    - Change colors, fonts, and layouts as needed.

- **Result:**
    - The template will be customized with your own information.

6. Creating or Editing Headers and Footers:

- **Inserting Headers and Footers:**
  - **Action:**
    - Click "Insert" in the top menu.
    - Select "Header" or "Footer."



  - **Result:**
    - The header or footer area will become active.
- **Adding Information:**
  - **Action:**
    - Type text, insert page numbers, or add other information into the header or footer area.
  - **Result:**
    - The information will appear in the header or footer on each page.
- **Customization:**
  - **Action:**

        - Use the header and footer design tools to change fonts, styles, and alignment.
    - **Result:**
        - The header or footer will be customized according to your changes.

Highlighting (Selecting):

- **Purpose:** To choose a section of text or numbers for further actions.
- **How:**
    - **Mouse:** Click and drag your mouse cursor over the desired text.
    - **Keyboard:**
        - Hold Shift and use the arrow keys to select text.
        - Ctrl + A (Windows) or Cmd + A (macOS) selects all text.
- **Result:** The selected text will be highlighted, usually with a different background colour.

2. Deleting:

- **Purpose:** To remove text or numbers.
- **How:**
    - Select the text you want to delete.
    - Press the Delete or Backspace key.
- **Result:** The selected text will be removed.

3. Moving (Cut and Paste):

- **Purpose:** To relocate text or numbers to a different location.
- **How:**

- Select the text you want to move.
- **Cut:**
  - Right-click and select "Cut," or
  - Use Ctrl + X (Windows) or Cmd + X (macOS).
- Position the cursor where you want to move the text.
- **Paste:**
  - Right-click and select "Paste," or
  - Use Ctrl + V (Windows) or Cmd + V (macOS).

- **Result:** The text will be removed from its original location and placed in the new location.

4. Copying (Copy and Paste):

- **Purpose:** To create a duplicate of text or numbers in a different location.
- **How:**
  - Select the text you want to copy.
  - **Copy:**
    - Right-click and select "Copy," or
    - Use Ctrl + C (Windows) or Cmd + C (macOS).
  - Position the cursor where you want to place the copy.
  - **Paste:**
    - Right-click and select "Paste," or
    - Use Ctrl + V (Windows) or Cmd + V (macOS).
- **Result:** A copy of the text will be placed in the new location, while the original text remains unchanged.

5. Drag and Drop:

- **Purpose:** To move text or numbers to a different location using the mouse.
- **How:**

    - Select the text you want to move.
    - Click and hold the selected text.
    - Drag the text to the desired location.
    - Release the mouse button.
- **Result:** The text will be moved to the new location.
- **Copy Drag and Drop:**
    - To copy instead of move, hold the CTRL key (Windows) or the Option Key (MacOs) while dragging and dropping.

Mail merge

Scenario: You're organizing a company holiday party and want to send personalized invitations to your employees.

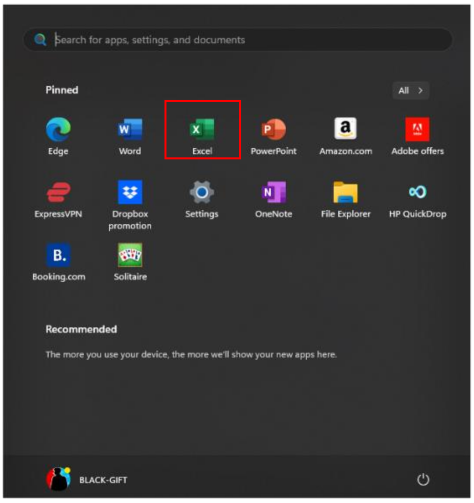
1. Creating the Main Document (Invitation Template):

- **Open Word Processor:** Launch Microsoft Word (or your preferred word processor).
- **Create Invitation:**
    - Type the body of your invitation, leaving placeholders for personal details.
    - Example:
    - Dear <<FirstName>> <<LastName>>,
    -
    - You're invited to our annual company holiday party!
    -
    - Date: December 20th
    - Time: 7:00 PM
    - Location: The Grand Ballroom
    -
    - We look forward to celebrating with you!
    -

- Sincerely,
- [Your Name/Company Name]
- **Note:** The <<FirstName>> and <<LastName>> are our merge field placeholders

2. Creating the Data Source (Recipient List):

- **Open Spreadsheet:** Open Microsoft Excel (or Google Sheets, etc.).



- **Create Columns:**
    - Create columns with headers that match your merge field placeholders: FirstName, LastName, Department, Email.

- **Enter Data:**
    - Fill in the rows with employee information.
- **Save Data Source:** Save the spreadsheet as an Excel workbook (.xlsx).

3. Starting the Mail Merge:

- **In Word:**
    - Go to the "Mailings" tab.
    - Click "Start Mail Merge" -> "Letters."

4. Selecting Recipients:

- **Click "Select Recipients" -> "Use an Existing List."**
- **Browse:** Navigate to and select your Excel workbook.
- **Select Sheet:** Choose the correct sheet that contains your data.
- **Click "OK."**

5. Inserting Merge Fields:

- **Place Cursor:** In your invitation template, place the cursor where you want to insert the `FirstName` merge field.
- **Click "Insert Merge Field" -> "FirstName."**
- **Repeat:** Do the same for `LastName`.

6. Previewing Results:

- **Click "Preview Results."**
- **Navigate:** Use the arrow buttons to cycle through the personalized invitations.
- **Check:** Verify that the data is correctly inserted.

7. Finishing and Merging:

- **Click "Finish & Merge" -> "Edit Individual Documents" -> "All."**
- **New Document:** A new Word document will be created, containing personalized invitations for each recipient.
- **Print/Email:** You can now print or email these invitations.

Selecting Mail Merge Recipients and Troubleshooting Errors:

- **Selecting Recipients:**
    - **Filtering:**
        - In the "Select Recipients" dialog, you can click "Edit Recipient List."

        - Here, you can check/uncheck recipients, sort, or use "Filter" to select recipients based on criteria (e.g., only those in the "Sales" department).
    - **Data Validation:**
        - Before starting the mail merge, always double-check your data source for accuracy.
        - Ensure that email addresses are correct if you plan to send invitations via email.
- **Troubleshooting Errors:**
    - **Missing Data:**
        - If a recipient's name is missing, check your data source for blank cells.
    - **Incorrect Data:**
        - If data is incorrect, edit your data source and restart the mail merge.
    - **Formatting Issues:**
        - If names or other data appear in the wrong font or size, adjust the formatting in your invitation template.
    - **Merge Field Errors:**
        - If merge fields don't appear, ensure that:
            - The field names in your data source match the names used in "Insert Merge Field."
            - You've selected the correct data source.
    - **Blank Pages:**
        - If you get extra blank pages, make sure there are no extra paragraph marks at the end of your main document.
    - **Email Issues:**
        - If sending emails, verify your email settings in Word.

        - Test with a small group before sending to everyone.
        - If data from the excel sheet is not displaying correctly, sometimes saving the excel sheet as a .csv file, and then importing that file will solve the issue.

1. Creating Tables and Columns:

- **In Microsoft Word (or similar word processors):**
    - Go to the "Insert" tab.
    - Click "Table."
    - You can:
        - Drag your mouse over the grid to select the desired number of rows and columns.
        - Click "Insert Table" to enter the number of rows and columns manually.
        - Draw a table.
- **Result:** A table with the specified dimensions will be inserted into your document.

2. Creating and Editing a Table with a Specified Number of Rows and Columns:

- **Creating:**
    - Follow the steps above to create a table with the exact number of rows and columns you need.
- **Editing:**
    - **Adding/Deleting Rows and Columns:**
        - Right-click inside the table.
        - Select "Insert" or "Delete."
        - Choose to insert or delete rows or columns.

- **Resizing Rows and Columns:**
  - Hover your mouse over the table's border until the cursor changes to a double-sided arrow.
  - Click and drag to resize the row or column.
- **Merging Cells:**
  - Select the cells you want to merge.
  - Right-click and select "Merge Cells."
- **Splitting Cells:**
  - Right click the cell you want to split.
  - Select "Split cells".
  - Enter the number of rows and columns you want to split the cell into.

3. Placing Text or Objects in a Table:

- **Text:**
  - Click inside a cell.
  - Type your text.
  - You can format the text as you would in any other part of the document.
- **Objects (Pictures, Shapes, etc.):**
  - Click inside the cell where you want to place the object.
  - Go to the "Insert" tab.
  - Select the object you want to insert (e.g., "Picture," "Shapes").
  - Browse to the file or select the shape and insert it.
  - You may need to resize the object to fit the cell.

4. Placing Texts or Objects into Columns:

- **Within a Table:**

    - Tables inherently organize content into columns.
    - Simply click inside the desired cell within a column and add your text or object.

- **Without a Table (Using Tabs or Columns):**
    - **Tabs:**
        - Type your content, and press the tab key to move to the next column.
        - This method is not very precise.
    - **Columns (in Word Processors):**
        - Select the text you want to divide into columns.
        - Go to the "Layout" tab (or "Page Layout" in older versions).
        - Click "Columns" and choose the number of columns.
        - This creates text columns that flow from one to the next.

5. Inserting Borders:

- **For the Entire Table:**
    - Click inside the table.
    - Go to the "Table Design" tab (or "Table Tools Design" in older versions).
    - Click the "Borders" dropdown menu.
    - Choose the border style you want (e.g., "All Borders," "Outside Borders").
- **For Specific Cells or Borders:**
    - Select the cells or borders you want to modify.
    - Use the "Borders" dropdown menu to apply the desired border style.

    - You can also select "Borders and Shading" from the dropdown to access more advanced border customization options.
- **Line Style and Colour:**
    - In the "Table Design" tab, you can also change the line style (e.g., solid, dashed) and colour of the borders.

Creating business Documents

1. Business Plan:

- **Step 1: Start a New Document:**
    - Open Microsoft Word.
    - Click "File" > "New" > "Blank document."
- **Step 2: Structure Your Plan:**
    - Create headings for each section:
        - Executive Summary
        - Company Description
        - Market Analysis
        - Organization and Management
        - Service or Product Line
        - Marketing and[1] Sales Strategy
        - Financial Projections
        - Funding Request (if applicable)
    - Use Heading 1 for main sections, Heading 2 for subsections, etc.

- **Step 3: Fill in the Content:**
    - Write the content for each section, providing clear and concise information.
    - Use tables, charts, and graphs to present data visually.

- **Step 4: Format:**
    - Use styles for consistent formatting (see "Styles" section below).
    - Add a title page with company name, plan title, and date.
    - Insert a table of contents (References > Table of Contents).

2. Memorandum (Memo):

- **Step 1: Start a New Document:**
    - Open Microsoft Word.
    - Click "File" > "New" > "Blank document."

- **Step 2: Create the Header:**
    - Type the following at the top of the document:
        - MEMORANDUM
        - TO: [Recipient's Name/Department]
        - FROM: [Your Name]
        - DATE: [Date]
        - SUBJECT: [Brief Subject Line]
    - Use a clear, professional font.

- **Step 3: Write the Body:**
  - Write the memo's content in a clear, concise, and direct manner.
  - Use paragraphs to separate ideas.
  - Use bullet points or numbered lists for clarity when needed.

- **Step 4: Format:**
  - Use styles for consistency.
  - Keep the memo to one or two pages.

3. Different Types of Letters (Business Letters):

- **Step 1: Start a New Document:**
  - Open Microsoft Word.
  - Click "File" > "New" > "Blank document."

- **Step 2: Use a Letter Template (Optional):**
  - Word provides letter templates (File > New, search for "letter").
  - Customize the template with your information.

- **Step 3: Create the Letterhead:**
  - Include your company's name, address, phone number, and email.

- **Step 4: Add the Date and Recipient Information:**
  - Type the date.
  - Type the recipient's name, title, and address.

- **Step 5: Write the Body:**
  - Use a professional tone.
  - Clearly state the purpose of the letter.
  - Use paragraphs to organize your thoughts.

- **Step 6: Add a Closing and Signature:**
  - Use a professional closing (e.g., "Sincerely," "Best regards").
  - Leave space for your signature.
  - Type your name and title.

- **Step 7: Format:**
  - Use styles for consistency.

4. Reports:

- **Step 1: Start a New Document:**
  - Open Microsoft Word.
  - Click "File" > "New" > "Blank document."

- **Step 2: Structure the Report:**
  - Create headings for each section:
    - Title Page
    - Executive Summary
    - Introduction
    - Methodology
    - Findings
    - Conclusions

        - Recommendations
        - Appendices (if applicable)
    - Use Heading styles for consistency.

- **Step 3: Fill in the Content:**
    - Write the content for each section, using clear and concise language.
    - Use tables, charts, and graphs to present data.

- **Step 4: Format:**
    - Use styles for consistency.
    - Add page numbers, headers, and footers.
    - Insert a table of contents (References > Table of Contents).

5. Create, Modify, Update, and Apply Styles:

- **Creating Styles:**
    - Select the text you want to format.
    - Format the text (font, size, color, etc.).
    - In the "Styles" group on the "Home" tab, click the "More" arrow.
    - Click "Create a Style."
    - Give the style a name and click "OK."

- **Modifying Styles:**
    - Right-click on a style in the "Styles" gallery.
    - Select "Modify."
    - Make your changes and click "OK."

- **Updating Styles:**
    - If you change the formatting of text that has a style applied to it, you can right click on the style in the style gallery, and select "Update [Style Name] to match selection."

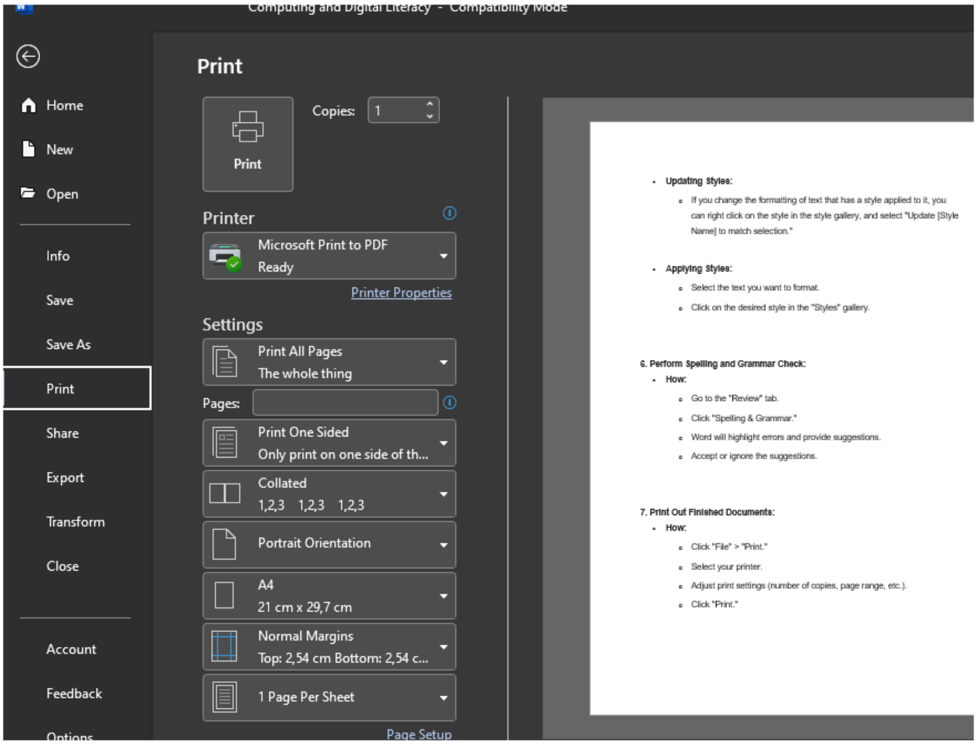
- **Applying Styles:**
    - Select the text you want to format.
    - Click on the desired style in the "Styles" gallery.

6. Perform Spelling and Grammar Check:

- **How:**
    - Go to the "Review" tab.
    - Click "Spelling & Grammar."
    - Word will highlight errors and provide suggestions.
    - Accept or ignore the suggestions.

7. Print Out Finished Documents:

- **How:**
    - Click "File" > "Print."
    - Select your printer.
    - Adjust print settings (number of copies, page range, etc.).
    - Click "Print."


Computing and Digital Literacy - Compatibility Mode
Print
Home
New
Open
Info
Save
Save As
Print
Share
Export
Transform
Close
Account
Feedback
Options
Print
Copies: 1
Printer
Microsoft Print to PDF
Ready
Printer Properties
Settings
Print All Pages
The whole thing
Pages:
Print One Sided
Only print on one side of th...
Collated
1,2,3 1,2,3 1,2,3
Portrait Orientation
A4
21 cm x 29,7 cm
Normal Margins
Top: 2,54 cm Bottom: 2,54 c...
1 Page Per Sheet
Page Setup
Updating Styles:
If you change the formatting of text that has a style applied to it, you can right click on the style in the style gallery, and select "Update [Style Name] to match selection."
Applying Styles:
Select the text you want to format.
Click on the desired style in the "Styles" gallery.
6. Perform Spelling and Grammar Check:
How:
Go to the "Review" tab.
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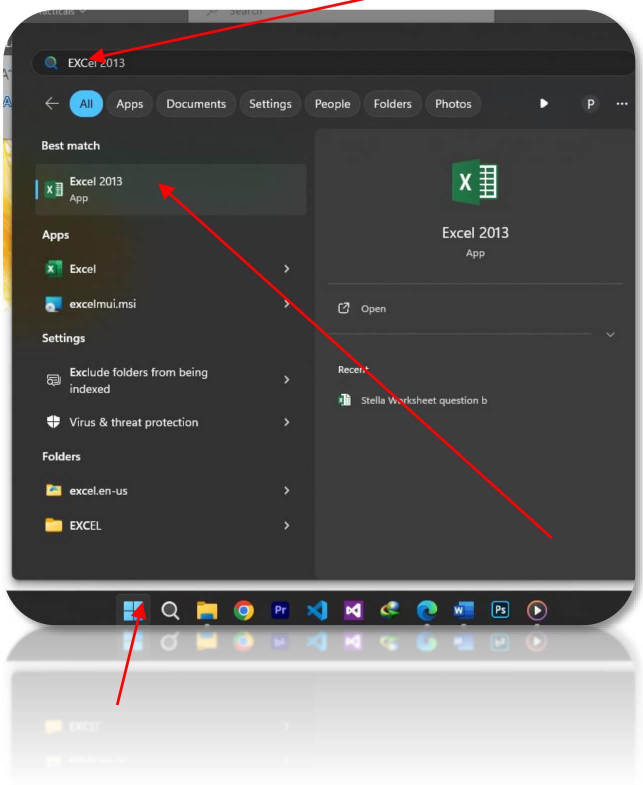
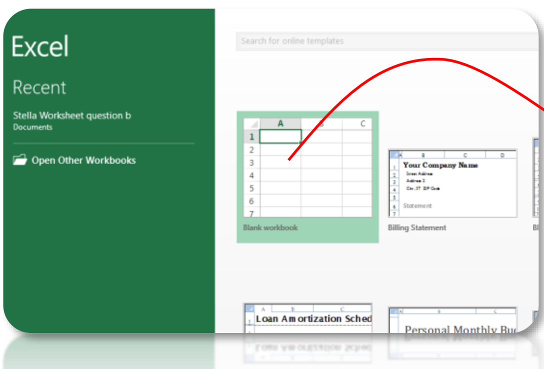
Accept or ignore the suggestions.
7. Print Out Finished Documents:
How:
Click "File" > "Print."
Select your printer.
Adjust print settings (number of copies, page range, etc.).
Click "Print."

MICROSOFT EXCEL

OPENING MICROSOFT EXCEL

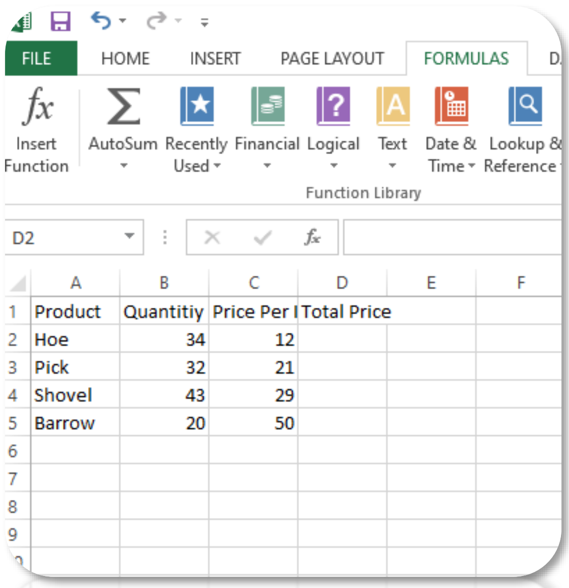


Click Blank

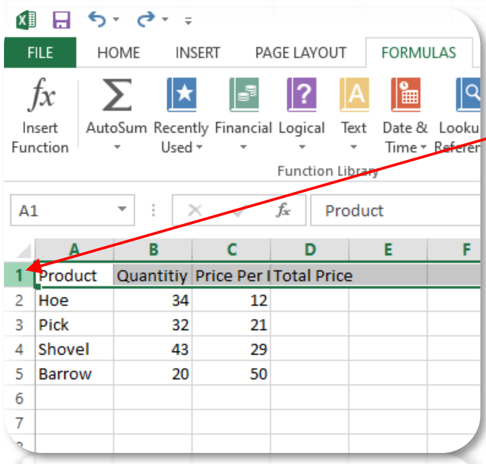


Here's a simple Sheet Created.

From here I will take your understanding of Excel Spreadsheets to the next level

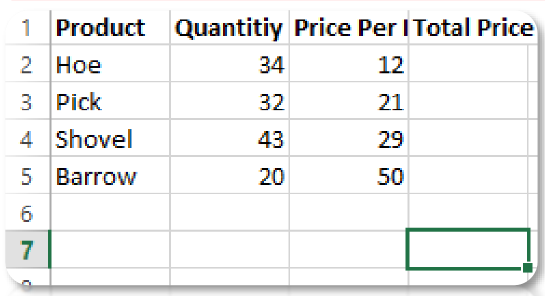


First we will need to Bold the headers



Click exactly here once, this will highlight the headers. Hit Ctrl + B to bold the text.

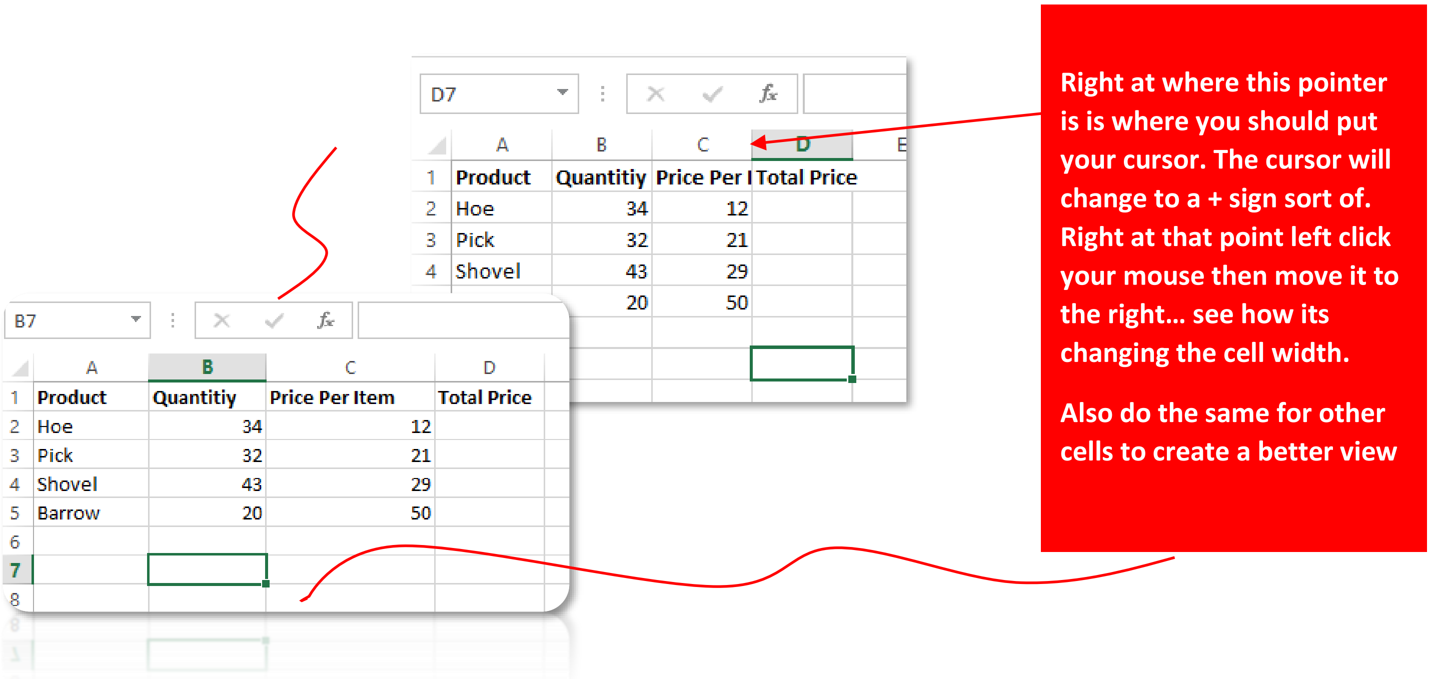
Here's the result:



As you can see the header name Price Per…Item is not clear

We are now required to increase the length of the cell we want to be clear.

Here's how you can do it.



Now for the basic calculations I have added the cell for finding the total of the quantity, price and total price

	A	B	C	D
1	**Product**	**Quantitiy**	**Price Per Item**	**Total Price**
2	Hoe	34	12	
3	Pick	32	21	
4	Shovel	43	29	
5	Barrow	20	50	
6	**Total**			
7				
8				

To calculate the total Price of each item you have to do the basic math of multiplying the Price per item with the quantity so you will need to click the cell you want the total to be, then type = then click the cell with 34 (cell B2).

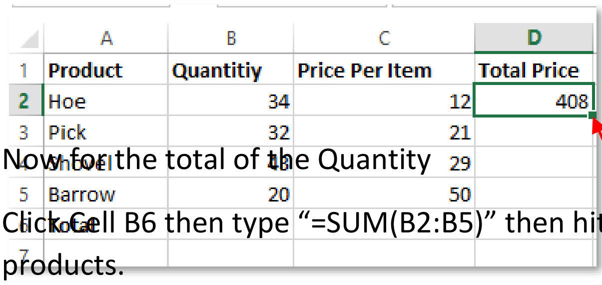
	A	B	C	D
1	**Product**	**Quantitiy**	**Price Per Item**	**Total Price**
2	Hoe	34	12	=B2
3	Pick	32	21	
4	Shovel	43	29	
5	Barrow	20	50	
6	**Total**			

Now continue to type in the total price cell D2- after **=B2** type * then click the cell with a 12 (Cell C2) then press enter on your keyboard. This will automatically Calculate the Total price of all the product items.

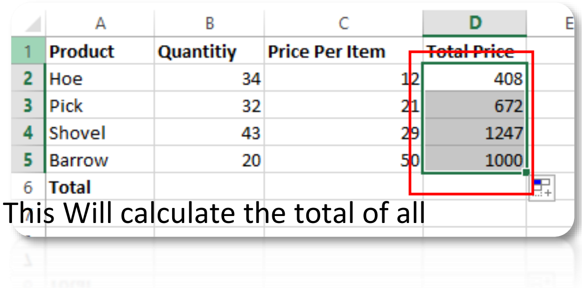
	A	B	C	D
1	**Product**	**Quantitiy**	**Price Per Item**	**Total Price**
2	Hoe	34	12	=B2*C2
3	Pick	32	21	
4	Shovel	43	29	
5	Barrow	20	50	
6	**Total**			

	A	B	C	D
1	**Product**	**Quantitiy**	**Price Per Item**	**Total Price**
2	Hoe	34	12	408
3	Pick	32	21	
4	Shovel	43	29	
5	Barrow	20	50	
6	**Total**			
7				

Now to calculate everything else you don't need to repeat the same steps no more. Heres What you have to do- Left-Click on that green dot pointed then move down until it highlights the "Barrow Total Price" (Cell D5). As you highlight it automatically calculates the total for the other product items.



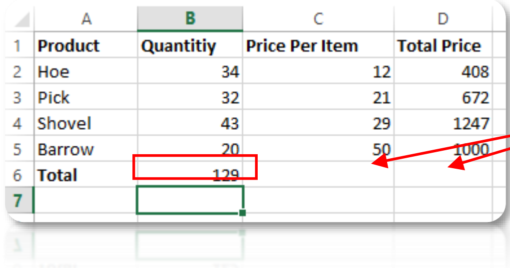
	A	B	C	D
1	Product	Quantitiy	Price Per Item	Total Price
2	Hoe	34	12	408
3	Pick	32	21	
4	Shovel	43	29	
5	Barrow	20	50	
6	Total			
7				



	A	B	C	D
1	Product	Quantitiy	Price Per Item	Total Price
2	Hoe	34	12	408
3	Pick	32	21	672
4	Shovel	43	29	1247
5	Barrow	20	50	1000
6	Total			

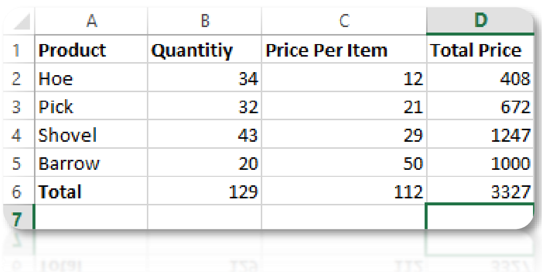
Now for the total of the Quantity

Click Cell B6 then type "=SUM(B2:B5)" then hit enter. This Will calculate the total of all products.



	A	B	C	D
1	Product	Quantitiy	Price Per Item	Total Price
2	Hoe	34	12	408
3	Pick	32	21	672
4	Shovel	43	29	1247
5	Barrow	20	50	1000
6	Total	129		
7				

And for the corresponding cells you will not again need to repeat the same process. You have to simply point to the bottom left corner of the cell B6 then drag it to cover those 2 cells to the right



	A	B	C	D
1	Product	Quantitiy	Price Per Item	Total Price
2	Hoe	34	12	408
3	Pick	32	21	672
4	Shovel	43	29	1247
5	Barrow	20	50	1000
6	Total	129	112	3327
7				

Heres some formulas you need to perform some

Other calculations:

Finding the average:

=AVERAGE(B1, B2, B3)

Counting the total number of cells in a range that contains a number.

=COUNT(B1:B4)

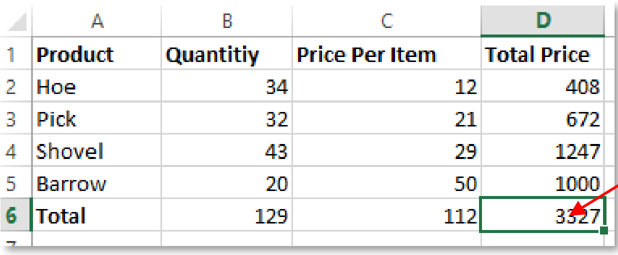
Finding the minimum.

=MIN(B1:B4)

Finding the maximum.

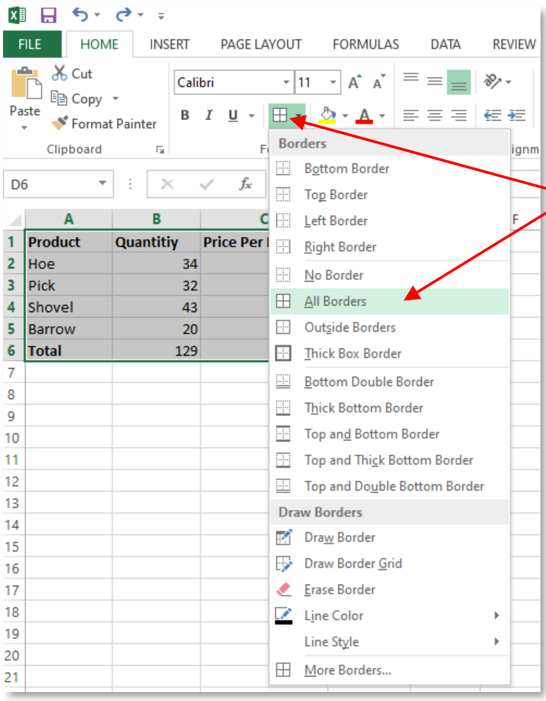
=MAX(B1:B4)

Now lets get ready to print the worksheet. Do don't simply print the worksheet. You will need to first put some guide lines on the Table you created.

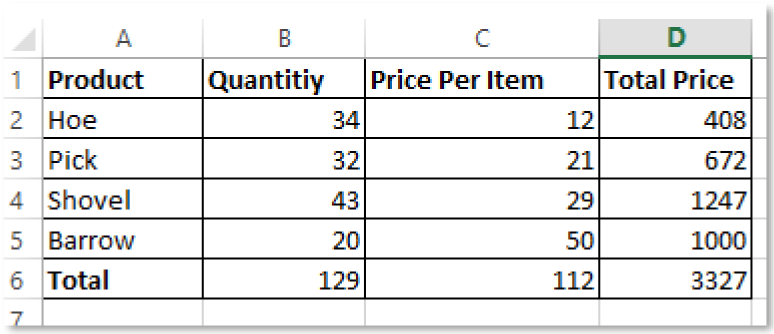


	A	B	C	D
1	Product	Quantitiy	Price Per Item	Total Price
2	Hoe	34	12	408
3	Pick	32	21	672
4	Shovel	43	29	1247
5	Barrow	20	50	1000
6	Total	129	112	3327

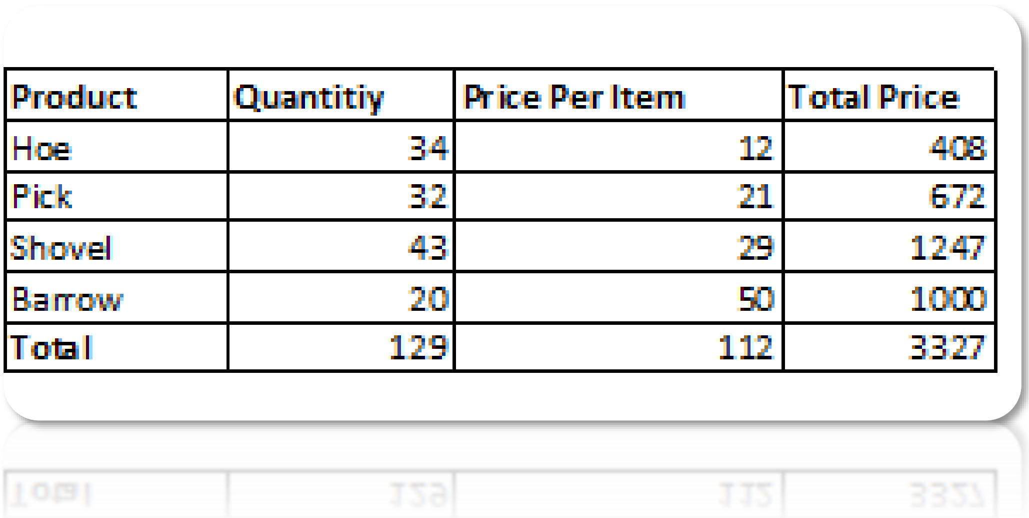
Click here then drag up to the top left corner to highlight the whole table



Click All bordersto finish the job! Press Control + P on your keyboard to see how structured it looks



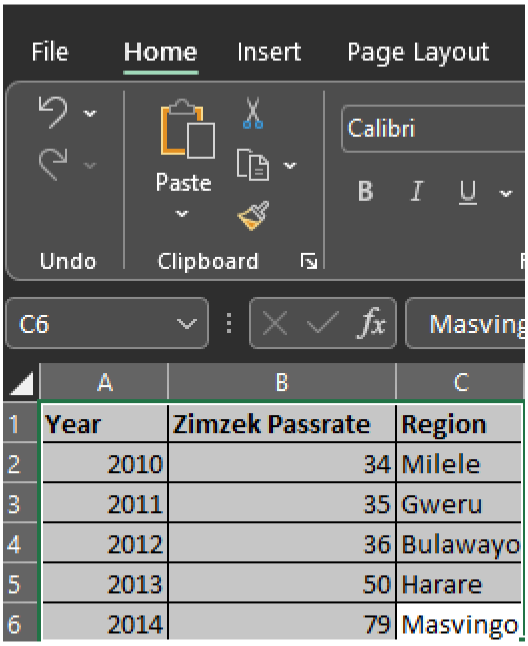
	A	B	C	D
1	Product	Quantitiy	Price Per Item	Total Price
2	Hoe	34	12	408
3	Pick	32	21	672
4	Shovel	43	29	1247
5	Barrow	20	50	1000
6	Total	129	112	3327

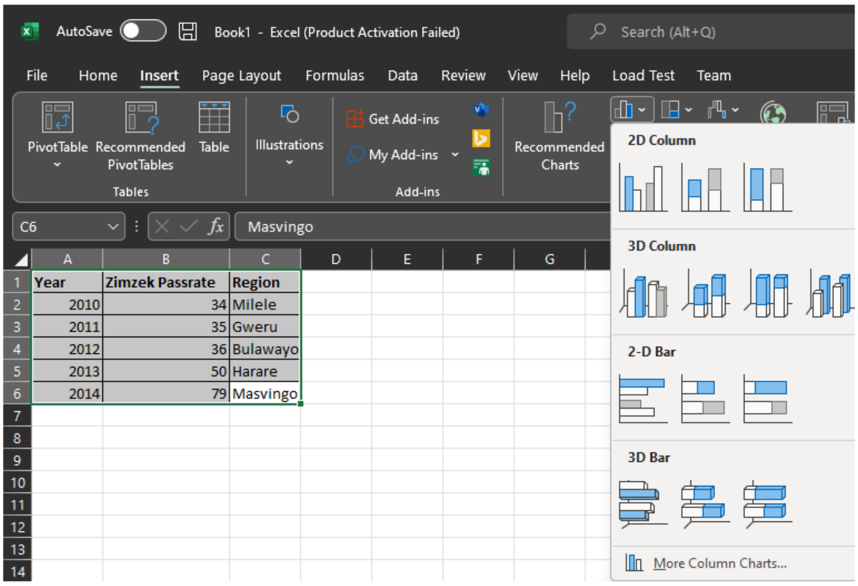


Product	Quantitiy	Price Per Item	Total Price
Hoe	34	12	408
Pick	32	21	672
Shovel	43	29	1247
Barrow	20	50	1000
Total	129	112	3327

Generating Appropriate Graphs from Given Data:

- **Select Data:**

- Highlight the cells containing the data you want to graph, including any headers.
- 

- **Insert Chart:**
  - Go to the "Insert" tab.
  - 

  - In the "Charts" group, choose the type of chart you want (e.g., Column, Line, Pie).

    - Excel will create a default chart based on your selected data.

- **Customize Chart:**
    - **Chart Title:** Click on the chart title to edit it.
    - **Axis Titles:** If needed, add axis titles by clicking the "+" button next to the chart and checking "Axis Titles."
    - **Data Labels:** Add data labels to display the values directly on the chart by clicking the "+" button next to the chart and checking "Data Labels."
    - **Legend:** Adjust the legend position or remove it by clicking the "+" button next to the chart and checking "Legend."
    - **Chart Design:** Use the "Chart Design" tab to change the chart style, colours, and layout.
    - **Format Data Series:** Right-click on a data series (e.g., a column in a column chart) and select "Format Data Series" to customize its appearance.

Saving the Spreadsheet:

- **Save:**
    - Click "File" > "Save" or "Save As."
    - Choose the location where you want to save the file.
    - Enter a filename.
    - Select the file type (.xlsx is the default).
    - Click "Save."

Printing Spreadsheet or Specified Window:

- **Print Preview:**
    - Go to "File" > "Print."
    - The print preview will show you how the spreadsheet will look when printed.

- **Print Settings:**
  - **Copies:** Enter the number of copies.
  - **Orientation:** Choose portrait or landscape. Landscpae is better for longer tables kuti anyatsbobuda.
  - **Print Active Sheets/Entire Workbook/Selection:**
    - "Print Active Sheets": Prints only the currently selected sheet.
    - "Print Entire Workbook": Prints all sheets in the workbook.
    - "Print Selection": Prints only the selected cells or chart.
- **Print:**
  - Click the "Print" button.

Creating basic business documents.

Invoices:

1. **Set Up the Invoice Template:**
   - **Company Information:** In the top section, include your company's name, address, logo (Insert > Picture), and contact details.
   - **Invoice Details:** Add fields for:
     - Invoice Number
     - Invoice Date
     - Customer Name
     - Customer Address
   - **Itemized List:** Create a table with columns for:
     - Item Description
     - Quantity

        - Unit Price
        - Total (Quantity * Unit Price)
    - **Totals:** Include fields for:
        - Subtotal
        - Tax (if applicable)
        - Total Amount Due
    - **Payment Terms:** Add a section for payment terms and instructions.

2. **Enter Data:**
    - Fill in the invoice details and itemized list for each customer.
    - Use formulas to calculate the "Total" for each item (e.g., `=C2*D2`).
    - Use the `SUM` function to calculate the "Subtotal" and "Total Amount Due."
    - Use a formula to calculate the tax, if applicable (e.g., `=Subtotal*TaxRate`).

3. **Format the Invoice:**
    - Use borders, colors, and fonts to make the invoice look professional.
    - Adjust column widths and row heights as needed.
    - Format numbers as currency.
4. **Save and Print:**
    - Save the invoice as an Excel file or PDF.
    - Print the invoice.

Receipts:

1. **Set Up the Receipt Template:**
   - **Company Information:** Include your company's name, address, and logo.
   - **Receipt Details:** Add fields for:
     - Receipt Number
     - Receipt Date
     - Customer Name
     - Payment Method
   - **Itemized List:** Create a table with columns for:
     - Item Description
     - Amount
   - **Total:** Include a field for the "Total Amount Received."
   - **Thank You Message:** Add a thank you message.

2. **Enter Data:**
   - Fill in the receipt details and itemized list.
   - Use the `SUM` function to calculate the "Total Amount Received.

3. **Format the Receipt:**
   - Use clear and concise formatting.
   - Format numbers as currency.

4. **Save and Print:**
   - Save the receipt as an Excel file or PDF.
   - Print the receipt.

Simple Financial Statements

1. **Set Up the Income Statement Template:**
   - **Company Name and Period:** Include your company's name and the reporting period (e.g., "Income Statement for the Year Ended December 31, 2023").
   - **Revenue:** Add fields for:
     - Sales Revenue
     - Other Revenue
     - Total Revenue
   - **Cost of Goods Sold (COGS):** Add a field for COGS.
   - **Gross Profit:** Calculate Gross Profit (Total Revenue - COGS).
   - **Operating Expenses:** Add fields for various operating expenses (e.g., salaries, rent, utilities).
   - **Total Operating Expenses:** Calculate Total Operating Expenses (SUM of all expenses).
   - **Operating Income:** Calculate Operating Income (Gross Profit - Total Operating Expenses).
   - **Other Income/Expenses:** Add fields for other income and expenses (e.g., interest income, interest expense).
   - **Net Income:** Calculate Net Income (Operating Income + Other Income - Other Expenses).

2. **Enter Data:**
   - Fill in the revenue and expense data.
   - Use formulas to calculate the totals and subtotals.

3. **Format the Income Statement:**
   - Use clear and consistent formatting.
   - Format numbers as currency.
   - Use borders and colors to highlight important sections.

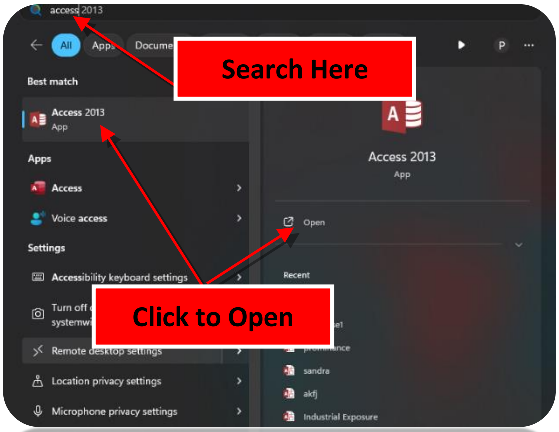
4. **Save and Print:**
    - Save the income statement as an Excel file or PDF.
    - Print the income statement.

Creating a Database in Microsoft Access

Here is a breakdown of how to create a database in Microsoft Access:

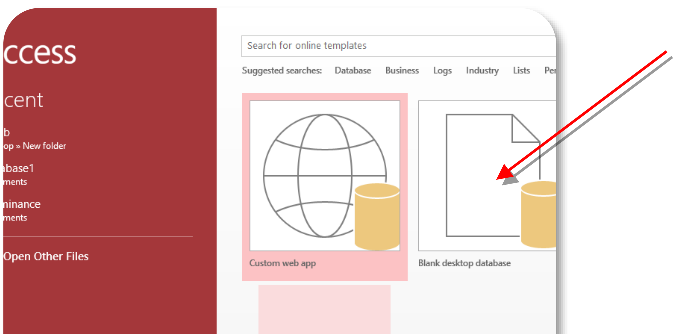
1. Finding and Opening Access:

- Click on the Start menu and search for "Microsoft Access."
- Alternatively, if you have icons pinned to your taskbar, look for the Access icon (usually a blue square with an "A" in it).
- Click on the icon to launch the application.

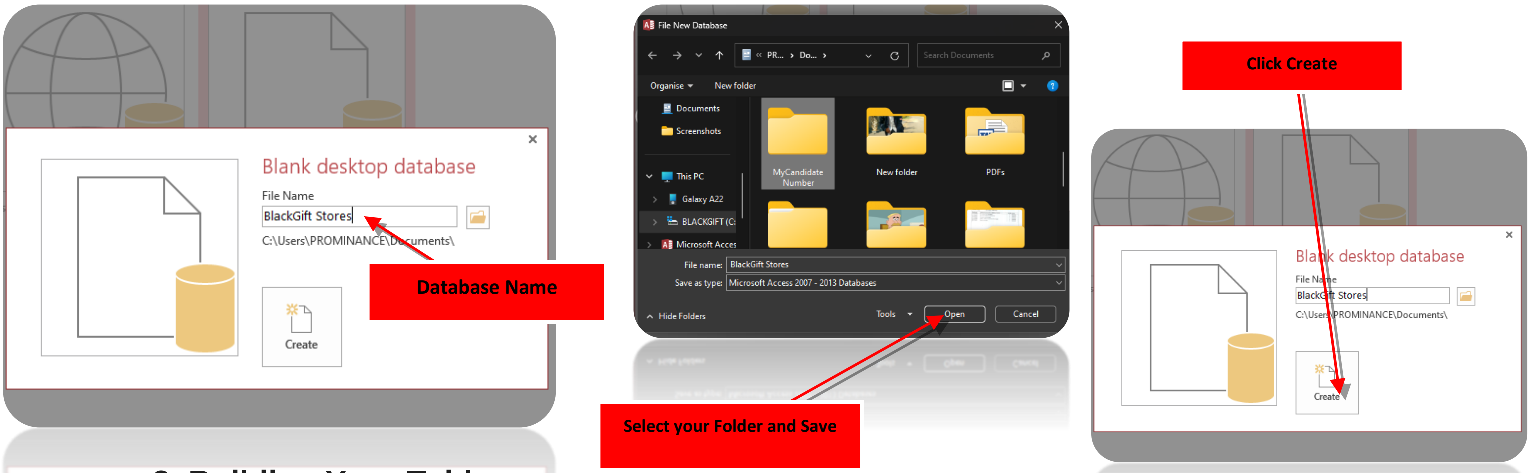


2. Now Create a Blank Database:

- Once Access opens, you'll see the welcome screen with various options.
- In the "New" section, click on "Blank Database."

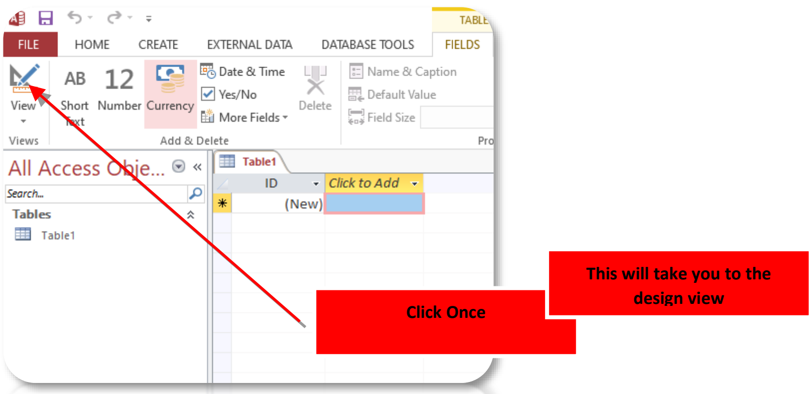


- A window will pop up prompting you to name your database. Choose a descriptive name that reflects the data you'll be storing (e.g., "CustomerContacts").
- You can also choose a location to save your database using the "Browse" button. By default, it will save in your Documents folder.
- Click "Create" to create the new blank database.



3. Building Your Table:

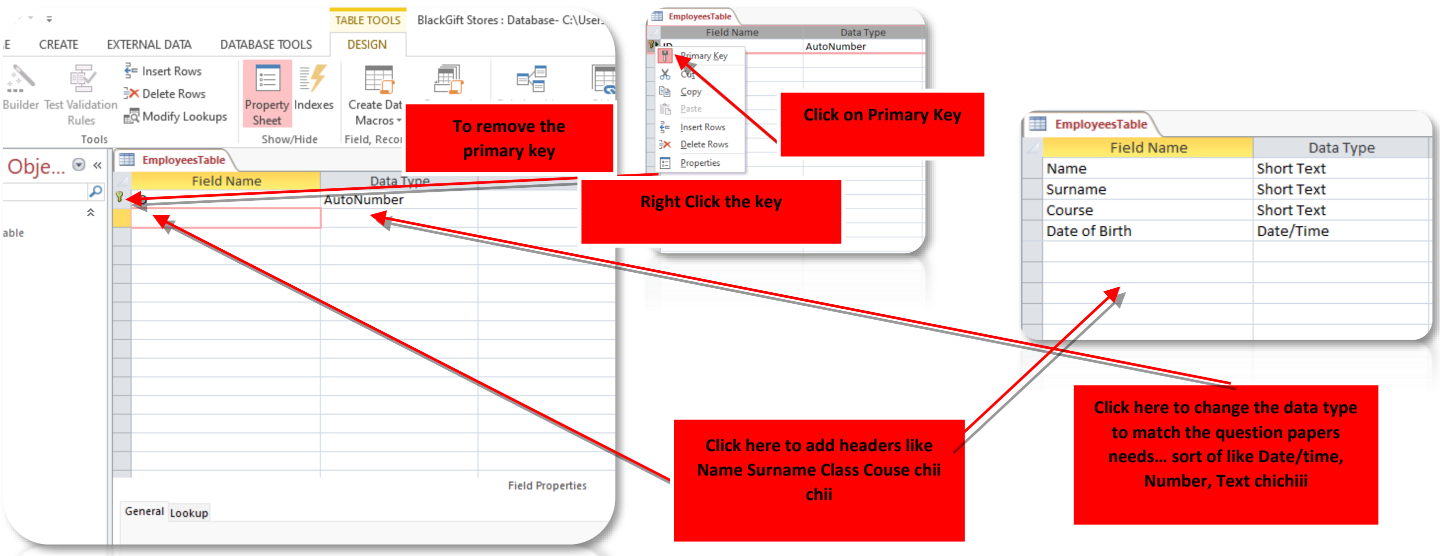
- Access will open your new database and display a table named "Table1"
- Click Design view.. A small window will pop-up on the center. Change the “table1” to the name your question paper asks you to then click OK.



- This is where you'll define your data structure.
- Click in the "Click to Add" column header and select the data type for your first field. Common choices include:
    - Short Text: Names, email addresses (up to 255 characters)
    - Number: Numbers for calculations (e.g., phone numbers)
    - Date/Time: Dates and times

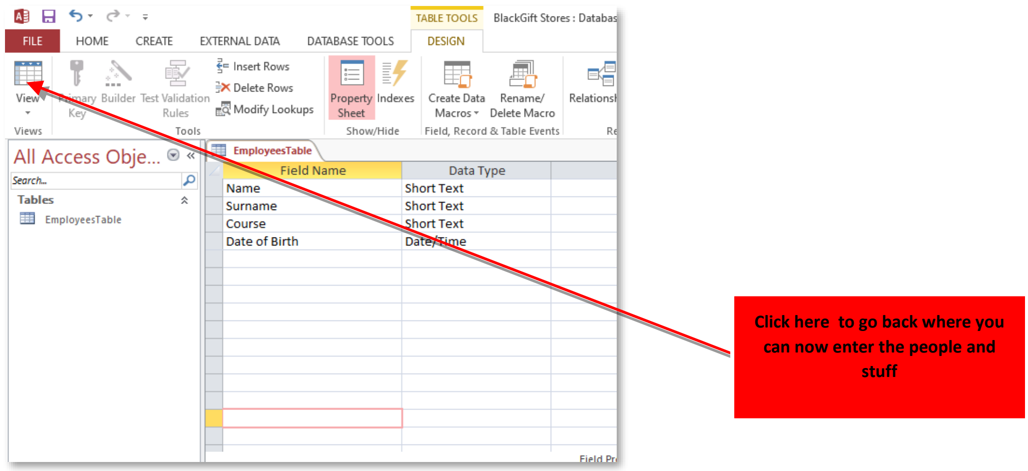
- Currency: Monetary values

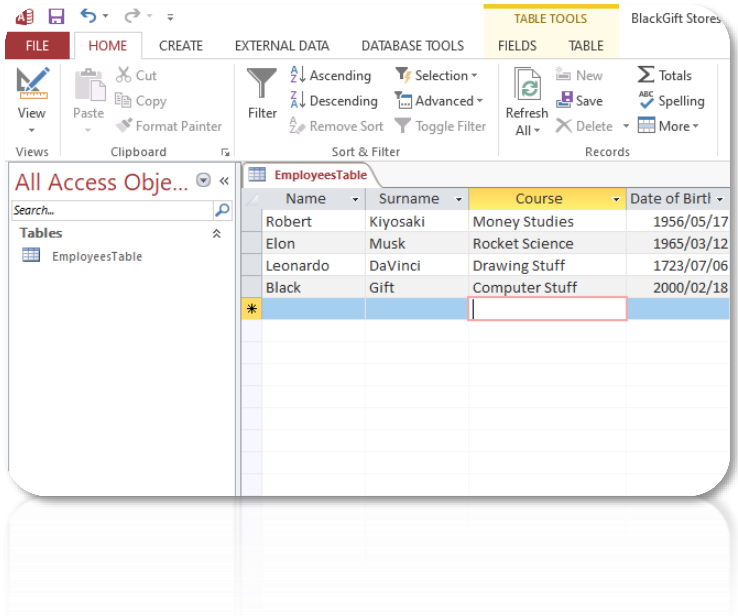
- Rename the column header by clicking on it and typing a descriptive name like "Name," "Surname," "Email," or "Phone."
- Repeat this process for all the fields you want to store in your database.



4. Adding Records:

- Each row in the table represents a single record.
- To add a new record, click on the blank row at the bottom of the table.
- Enter the data for each field in the corresponding column.
- Press Enter or Tab to move to the next field and continue entering data.



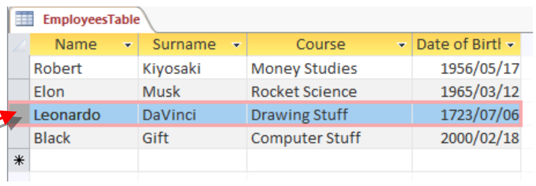


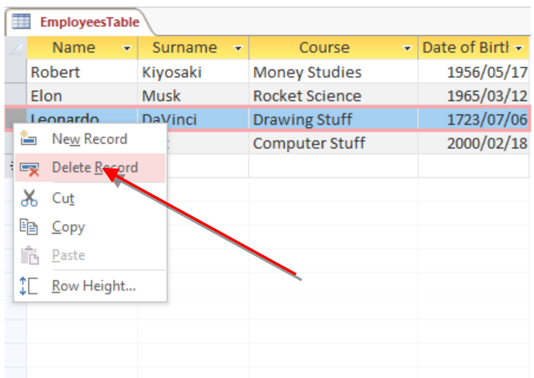
Here you enter all records you are assigned to enter

5. Deleting Records:

- Select the entire row of the record you want to delete by clicking on the grey box to the left of the record.
- Press the Delete key on your keyboard, or right-click on the selected row and choose "Delete Record."

Right Click exactly here





6. Editing Records:

- Click on any cell within the record you want to edit.
- Make your changes directly in the cell and press Enter to save the edits.

7. Sorting Records:

- Click on the header of the column you want to sort by.
- A small arrow will appear next to the header. Click the arrow again to toggle between ascending (A to Z) and descending (Z to A) sorting.

8. Printing Selected Fields:

- In Datasheet view, select the specific fields (columns) you want to print by holding Ctrl and clicking on the column headers.
- Go to the File menu and choose "Print."
- In the Print window, you can choose which fields to print (if you didn't select them earlier), adjust the layout, and preview the printout before sending it to your printer.

Best Practices:

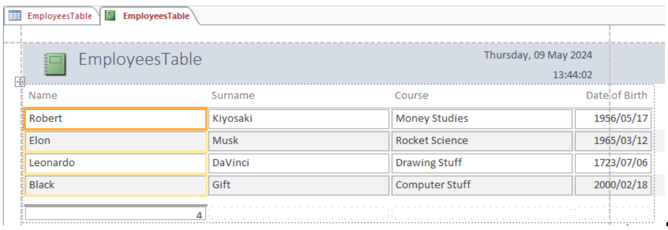
In your exam, when answering the database questions… You will need to make use of Microsoft word. For example if the question asks you to create a table and fill in with the information provided… In the Questions whenever you see where they say "..and Print" Open **Word** then write like this:

Question 1a)

EmployeesTable

Name	Surname	Course	Date of Birtl
Robert	Kiyosaki	Money Studies	1956/05/17
Elon	Musk	Rocket Science	1965/03/12
Leonardo	DaVinci	Drawing Stuff	1723/07/06
Black	Gift	Computer Stuff	2000/02/18

Question 1b)



…So on and so forth

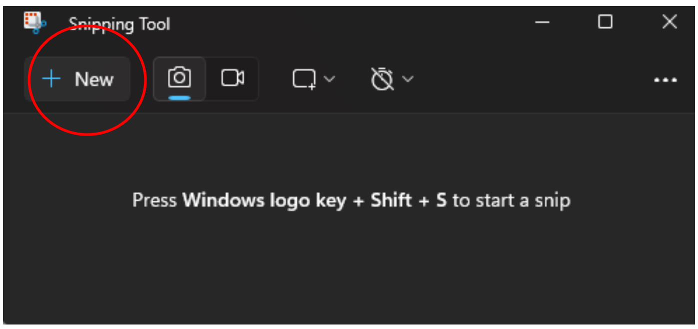
Click windows and search Snipping tool. When ever you see where they say …and print. Open the snipping too then click on new. Your screen will dim then you will have to navigate your mouse cursor to the corner of the area you want to take a screenshot then left click mouse and drag to cover the whole area you want a shot on.

For example if the question asks you to create and fill a table then print. You Click on New then at the top left corner of your table drag your mouse to the bottom richt corner to take a shot of the whole table then just release the click.

Go to word where you wrote

Question 1a)

Then put your cursor right under the "Question 1"- make sure it's a line blinking. Then right there on your keyboard click Ctrl + V to paste that screenshot you captured… Do the same for every question which asks you to print…..



CREATING A QUERY

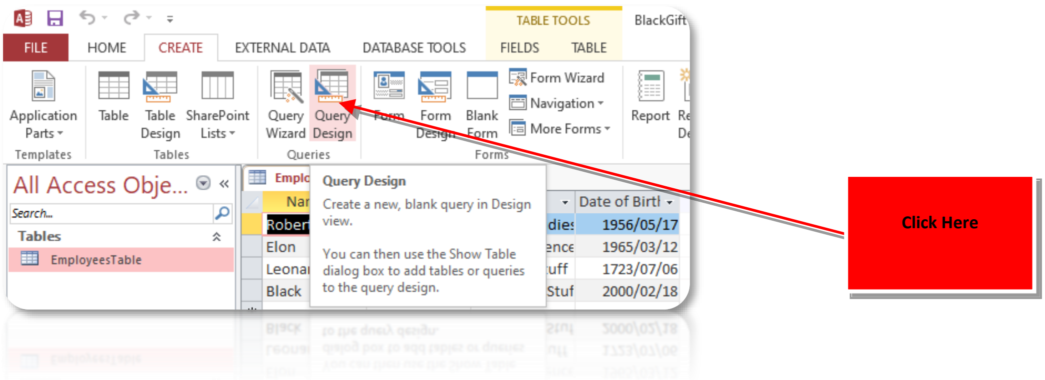
1. Creating a Query:

There are two main ways to create a query:

- **Query Wizard:** This is a step-by-step approach that guides you through selecting tables, fields, and criteria.
- **Design View:** This offers more flexibility for complex queries.

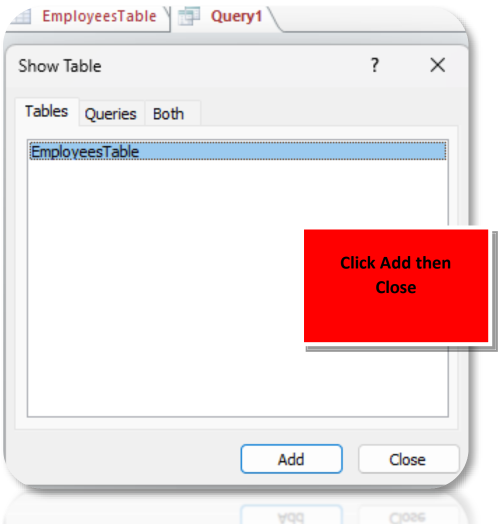
Here, we'll use Design View for more control over the criteria.

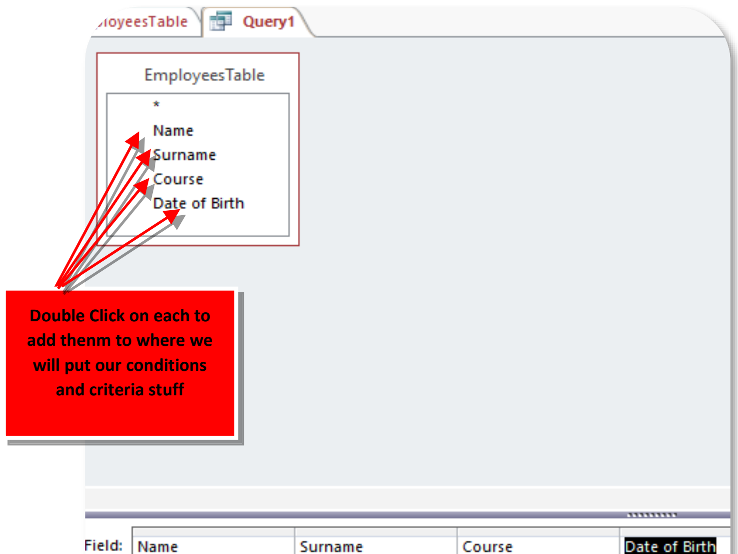
- Go to the "Create" tab on the Access ribbon.
- In the "Queries" group, click on "Query Design."
- A new window will open where you can add tables to your query.



2. Adding Tables and Fields:

- In the "Show Table" dialog box, select the table(s) containing the data you want to query.
- Click "Add" to include them in the query window.
- Double-click on the fields you want to display in the query results from each table. These fields will appear in the grid below.

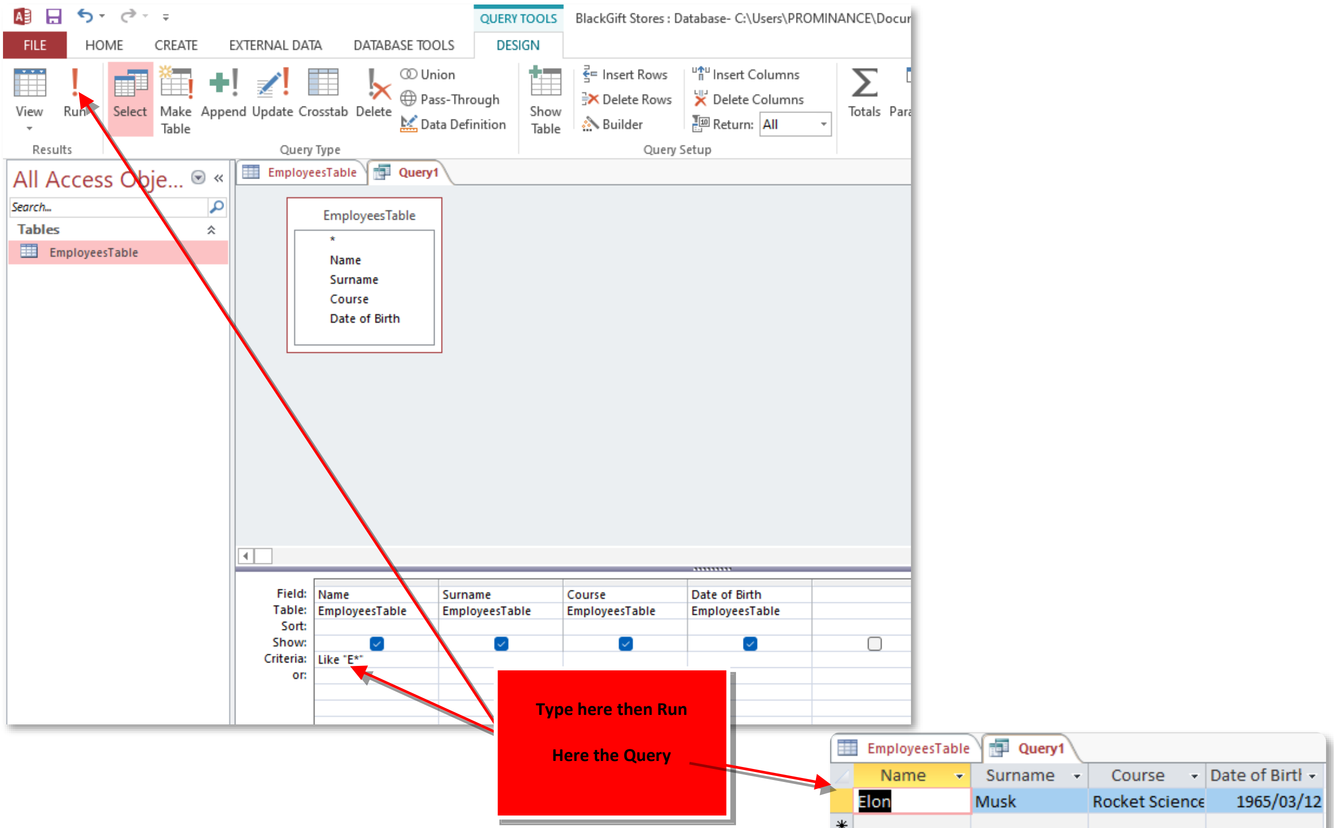




3. Setting Criteria:

Now comes the magic of filtering data!

- In the "Criteria" row of the grid, you can specify conditions for each field. Here are some examples based on your requests:
    - **Find names starting with "E":**
        - In the "Criteria" row for the "Name" field, type `Like "E*"` (the asterisk acts as a wildcard for any characters following "T").



Here's other Criteria that may happen to appear in your exam. It might not come as it is here, this is just an example by the keywords and format for criteria is just the same. Most of them are not common in exams but for learning purposes you might need to explore most of them.

- **Criteria for Including Records in Microsoft Access Queries**
- This table summarizes how to create queries in Microsoft Access to include records based on various criteria:

To include records that...	Use this criterion	Query Result	Notes
Exactly match a value	`"Blackgift"` (replace "value" with the actual value)	Returns records where the field is set to the exact value.	Example: `"Blackgift"` returns records where the Name field is set to "China".
Do not match a value	`Not "Mexico"`	Returns records where the field is set to a value other than the specified value.	Example: `Not "Mexico"` returns records where the CountryRegion field is set to a country/region other than Mexico.
Begin with a specified string	`Like "P*"`	Returns records for all fields that start with the Letter P	The asterisk (*) is a wildcard that matches any number of characters following the "string".
Do not begin with a specified string	`Not Like "P*"`	Returns records for all fields that do not start with P.	
Contain the specified string	`Like "*string*"`	Returns records for all fields that contain the specified string anywhere within the value.	
Do not contain the specified string	`Not Like "*string*"`	Returns records for all fields that do not contain the specified string.	
End with the specified string	`Like "*string"``	Returns records for all fields that end with the specified string.	
Do not end with the specified string	`Not Like "*string"`	Returns records for all fields that do not end with the specified string.	
Contain null values	`Is Null`	Returns records where the field has no value (null).	
Do not contain null values	`Is Not Null`	Returns records where the field has a value (not null).	

Contain zero-length strings (blank)	`""` (empty quotes)	Returns records where the field is set to a blank value.	
Do not contain zero-length strings (not blank)	`Not ""`	Returns records where the field has a non-blank value.	
Contain null values or zero-length strings	`"" Or Is Null`	Returns records where the field is either null or blank.	
Are not empty or blank	`Is Not Null And Not ""`	Returns records where the field has a non-blank, non-null value.	
Follow a value when sorted alphabetically	`>= "value"`	Returns records for all fields starting from the specified value and continuing to the end (based on alphabetical sorting order).	Example: `>= "Mexico"` returns records for Mexico and all countries/regions that come after it alphabetically.
Fall within a specific range of characters	`Like "[start-char]-[end-char]*"`	Returns records for all fields that start with characters between the specified range (inclusive).	Example: `Like "[A-D]*"` returns records for countries/regions whose names start with the letters "A" through "D".
Match one of two or more values	`"value1" Or "value2" Or ...` (list all values)	Returns records that match any of the specified values.	
Contain one of the values in a list	`In("value1", "value2", ...)` (list all values)	Returns records that match any of the values in the list.	
Contain certain characters at a specific position	`Right([field name], length) = "character"`	Returns records where the specified character is at the specified position within the field value.	Right([CountryRegion], 1) = "y" returns records for all countries/regions where the last letter is "y". Replace "length" with the actual character position (e.g., 1 for the last character).
Satisfy length requirements	`Len([field name]) operator value`	Returns records where the field length meets the specified condition.	Replace "operator" with a comparison operator like `>`, `<`, `>=`, or `<=` and "value" with the desired length.

Match a specific pattern	`Like "pattern"`	Returns records that match the specified pattern using wildcards.	The question mark (?) represents a single character, and the underscore (_) represents a single character that cannot be a wildcard (*)

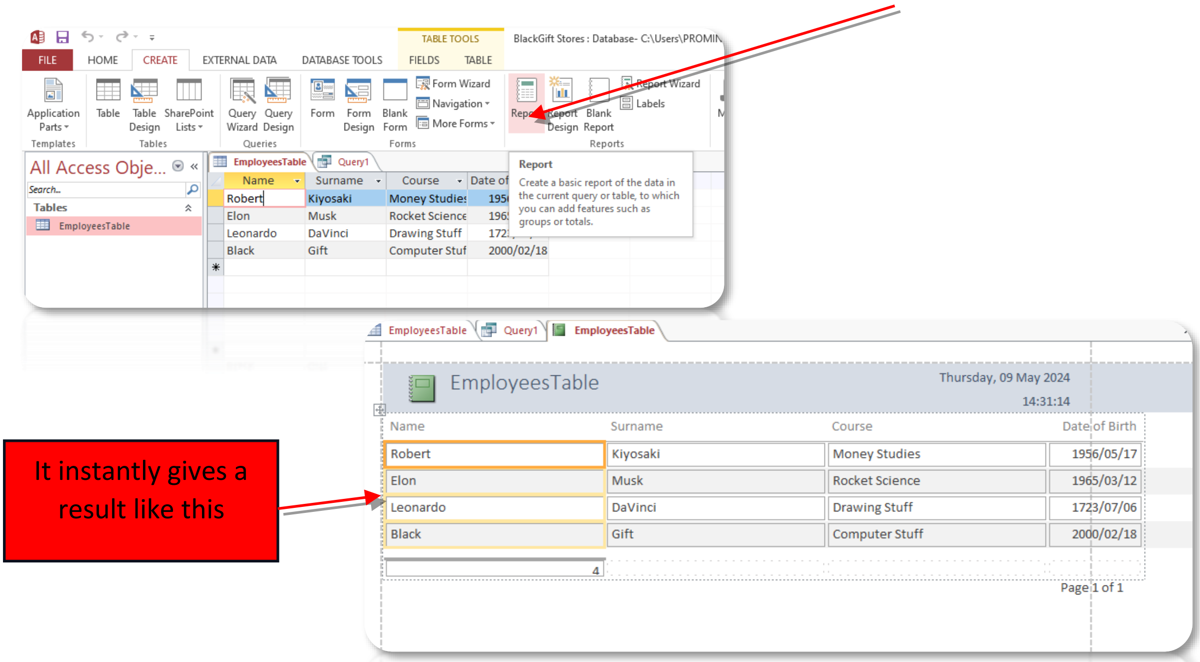
CREATING A REPORT

1. Choosing the Data Source:

- Before creating the report, ensure you have a table or query containing the data you want to display.

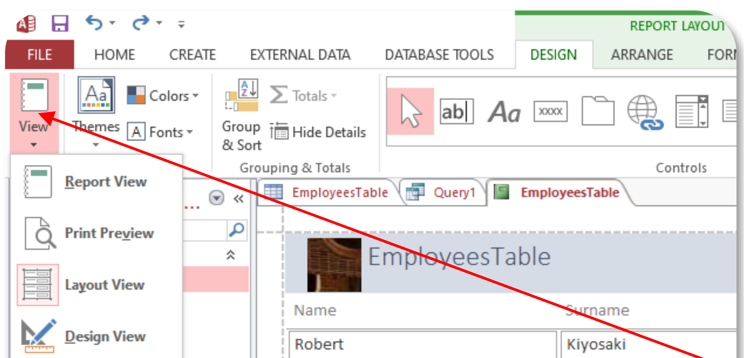
2. Creating the Report:

- In the Navigation Pane, select "Report" from the menu.



3. Switching to Design View:

- By default, Access opens the report in Layout View. To add headers and pictures, you'll need to switch to Design View.
- Click on the "Design" tab on the ribbon and then the "View" button in the "Layout" group.
- This will switch you to Design View, where you can modify the report's layout.

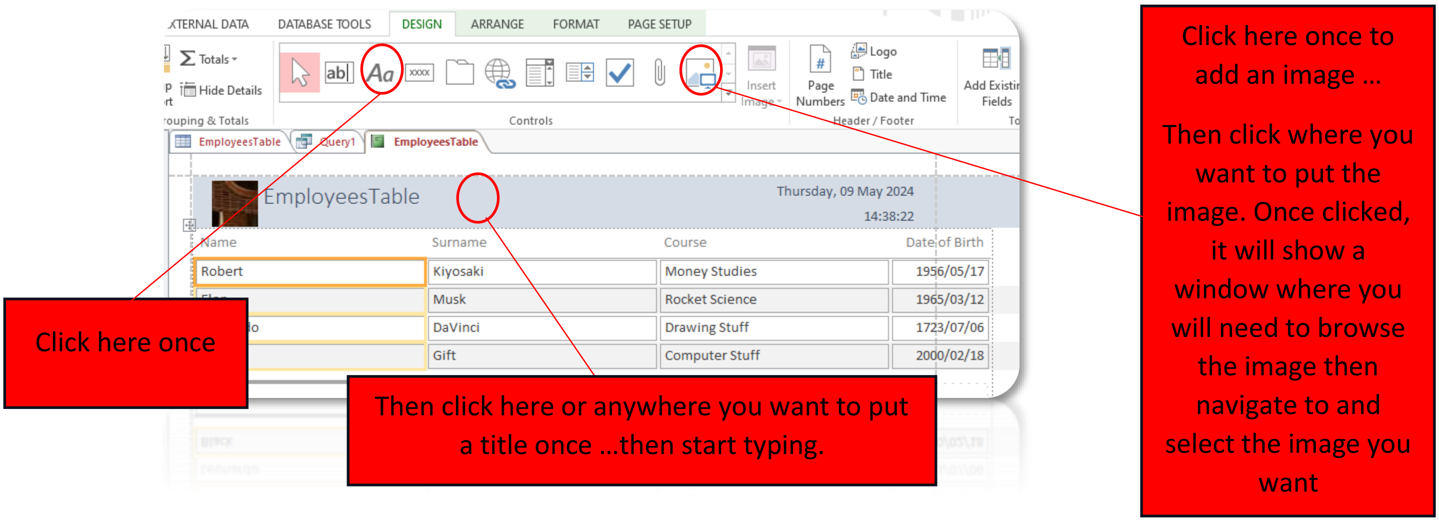


4. Adding a Report Header:

- The Report Header section appears at the top of every page in the report.
- To add a report header, double-click on the gray area above the Detail section (where your data will be displayed).
- This activates the Report Header section.

5. Inserting a Title and Picture:

- In the Report Header section, you can insert a title by clicking in the desired location and typing the text.
- To add a picture, go to the "Insert" tab and click on "Picture."
- Browse to the location of your image file and select it.
- You can resize and position the picture by dragging the corners or using the mouse while holding down the Shift key.



6. Adding Page Headers and Footers:

- Similar to the Report Header, you can create Page Headers and Footers that appear on every page (top and bottom, respectively).
- Right-click on the gray area above or below the Detail section and choose "Page Header/Footer" from the menu.
- You can add text, pictures, or page numbers to these sections.

7. Formatting and Grouping Data:

- Use the tools in the "Design" tab to format your report, such as changing font styles, font sizes, and alignment.
- You can also group your data by specific fields to organize the report further. This is done by dragging the desired field from the Field List pane onto the Group Header section.

8. Saving and Previewing the Report:

- Once you've finished designing your report, save it by clicking on the "File" tab and then "Save As."
- To preview the report before printing, click on the "View" tab and then "Report View." This will show you how the final report will look.

9. Printing the Report:

- When you're ready to print the report, go to the "File" tab and click on "Print."
- You can adjust printing settings like page orientation and margins before sending it to your printer***. (As I mentioned above, you will need to use the snipping tool to copy only the important area and paste in Microsoft word)*** 

CREATING A FORM

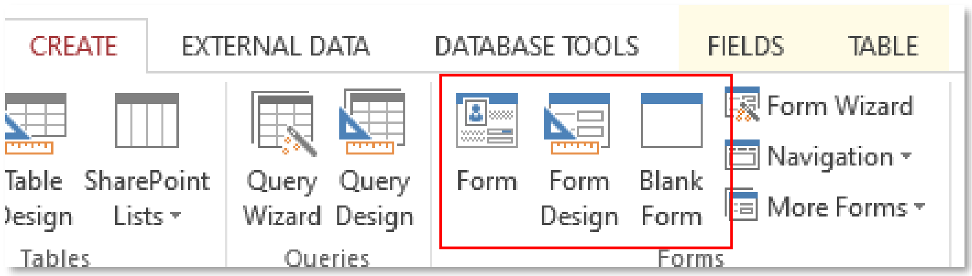
1. Selecting the Data Source:

- Before creating a form, ensure you have a table or query containing the data you want to display and edit.

2. Creating the Form:

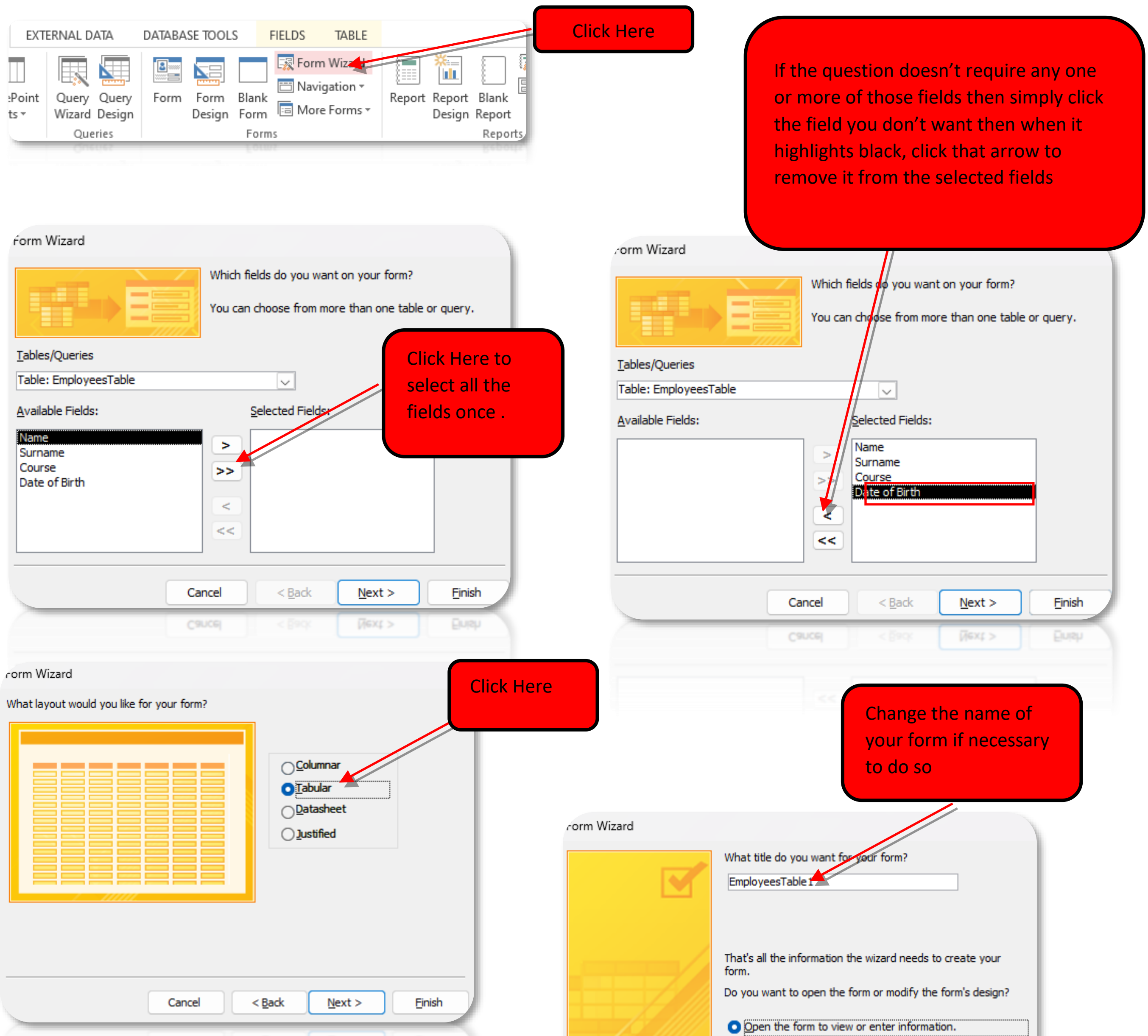
There are two main ways to create a form:

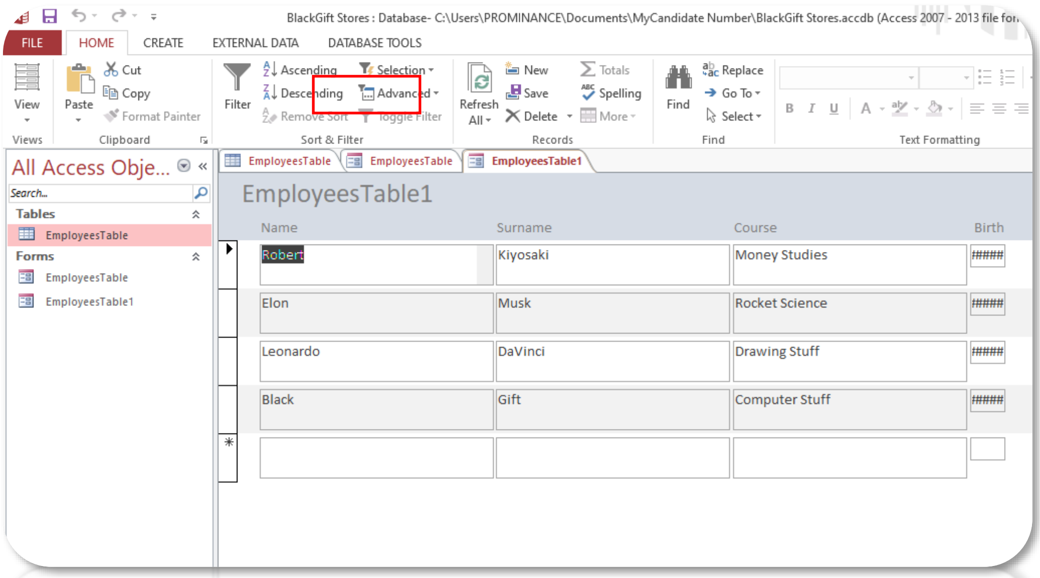
- **Form Wizard:** This guided approach walks you through selecting fields, layouts, and options.
- **Design View:** This offers more flexibility for customizing the form's appearance and functionality.



3. Using the Form Wizard (Optional):

- In the Navigation Pane, select "Form" from the menu.
- Choose "Form Wizard" and follow the steps in the wizard. You can select the fields you want to include, choose a layout style, and customize some basic formatting options.

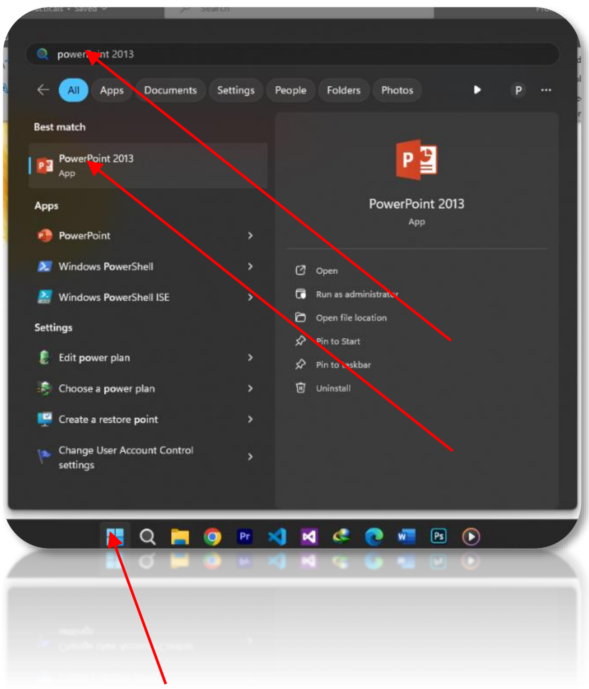




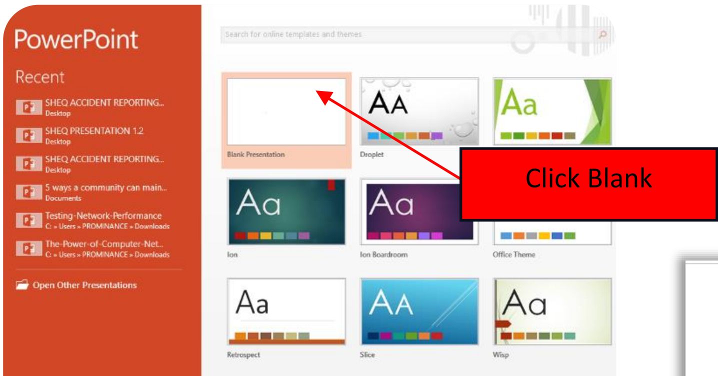
- Once done…. ***<u>(As I mentioned previously, you will need to use the snipping tool to copy only the important area and paste in the Microsoft word document continuing with all the questions)</u>***

Creating and Editing a Presentation: CREATING POWERPOINT PRESENTATIONS

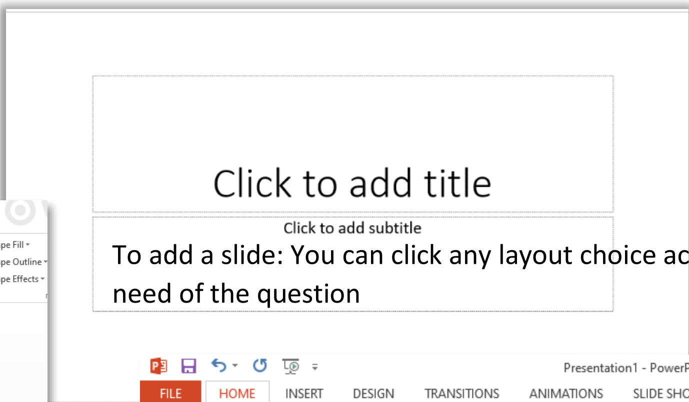
Open Powerpoint



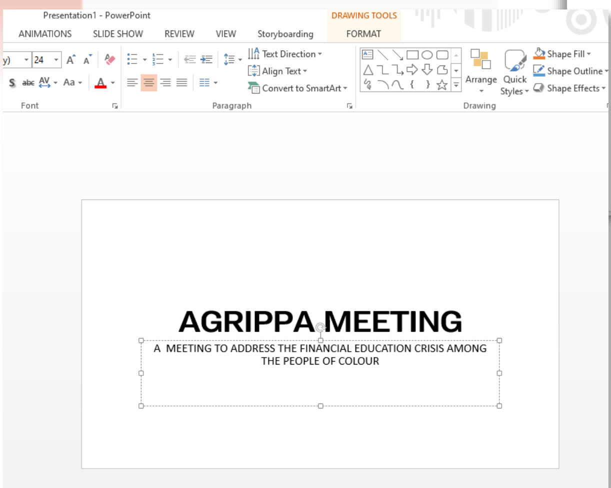
CREATING A PRESENTATION



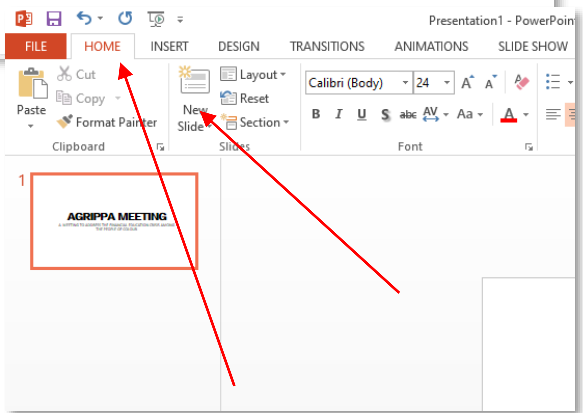
Click to add the title you're assigned to add



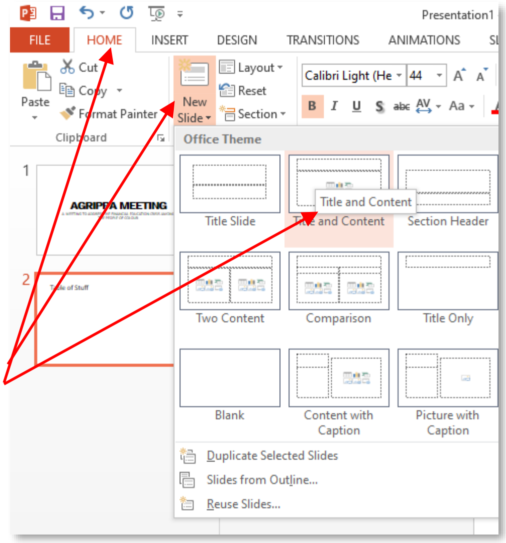
You can also change the feel by changing the colours and the font styles, size and whatever that makes it look cool and proffessional



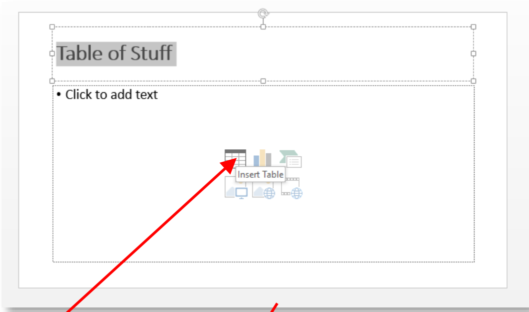
To add a slide: You can click any layout choice according to the need of the question

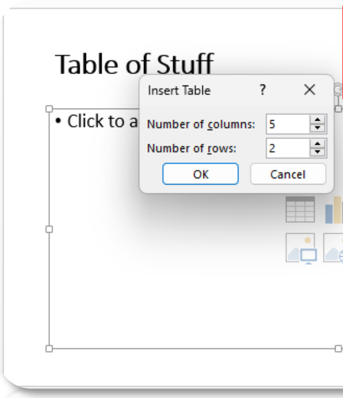


ADDING A CHART



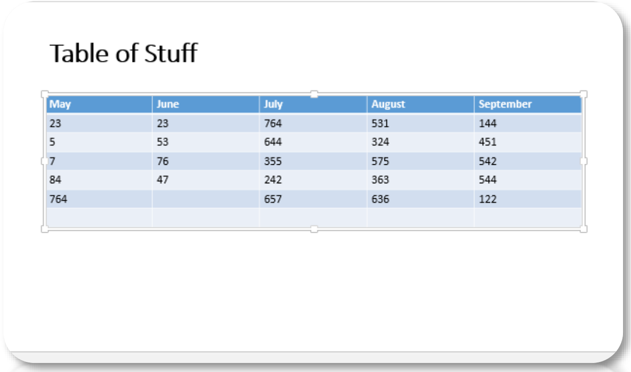
Add the table then put fill it with the information you're provided





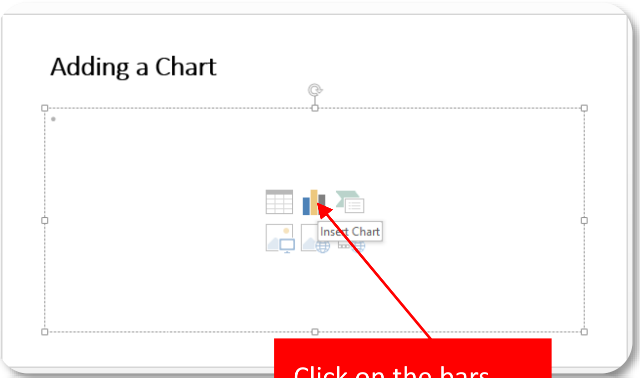
Specify the number of rows and columns

Something like this

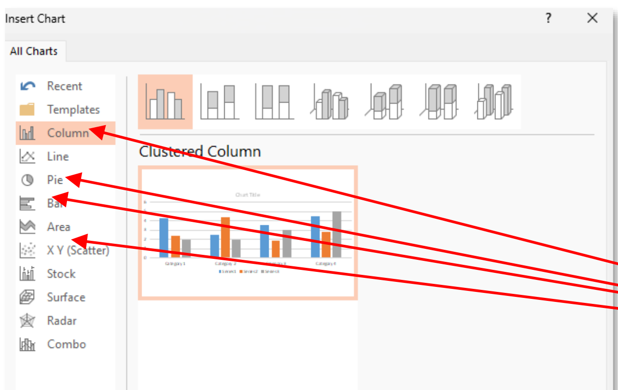


May	June	July	August	September
23	23	764	531	144
5	53	644	324	451
7	76	355	575	542
84	47	242	363	544
764		657	636	122

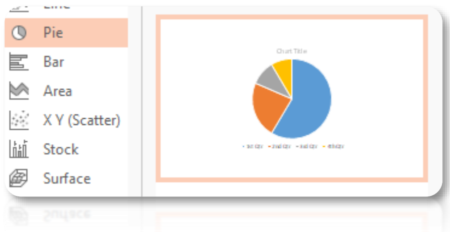
ADDING A CHART



Click on the bars

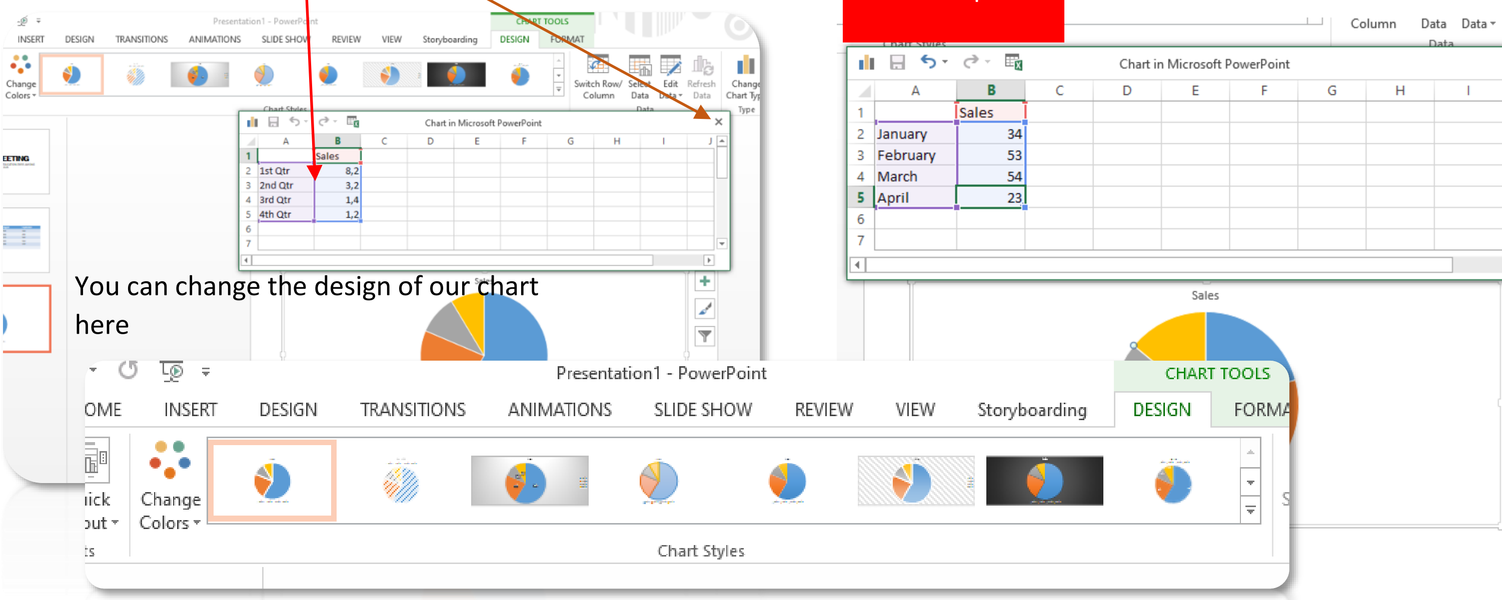


You might need to adjust your choice of abrs



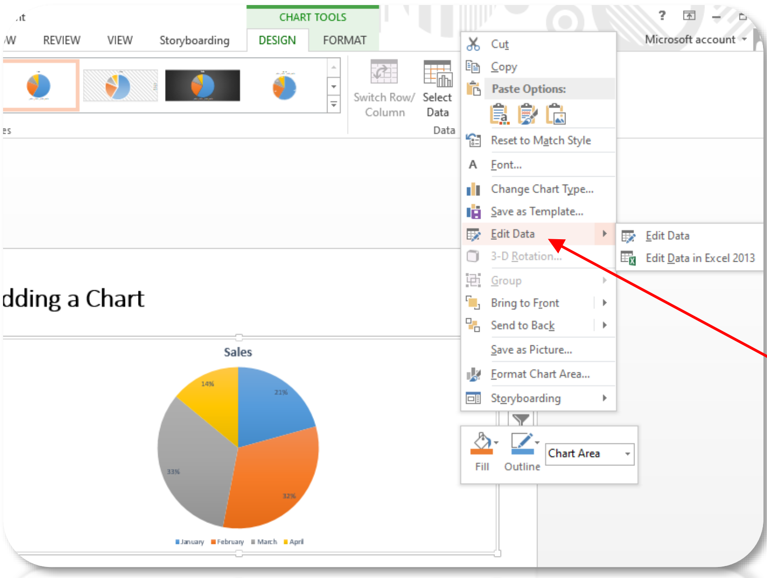
As soon as you click the pichrt then click ok, this appears, edit the information to what your exam wants…after your done just click the X at the top left corner

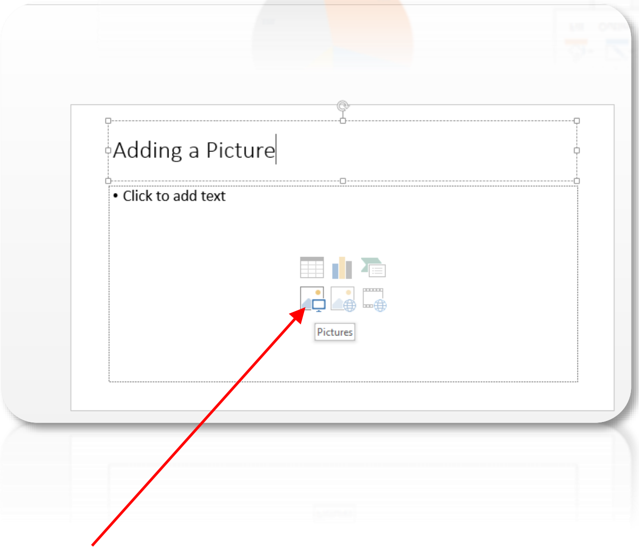
For example



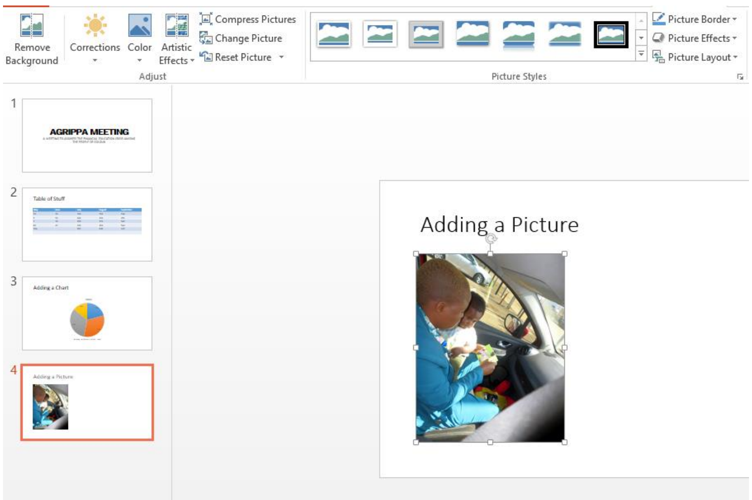
You can change the design of our chart here

If you made a mistake in entering the data you can always change by right clicking the table the Click “Edit Data”


REVIEW
VIEW
Storyboarding
CHART TOOLS
DESIGN
FORMAT
Switch Row/ Column
Select Data
Data
Microsoft account
Cut
Copy
Paste Options:
Reset to Match Style
Font...
Change Chart Type...
Save as Template...
Edit Data
3-D Rotation...
Group
Bring to Front
Send to Back
Save as Picture...
Format Chart Area...
Storyboarding
Edit Data
Edit Data in Excel 2013
Fill
Outline
Chart Area
dding a Chart
Sales


Adding a Picture
• Click to add text
Pictures

Like so


Remove Background
Corrections
Color
Artistic Effects
Compress Pictures
Change Picture
Reset Picture
Adjust
Picture Styles
Picture Border
Picture Effects
Picture Layout
AGRIPPA MEETING
Adding a Picture