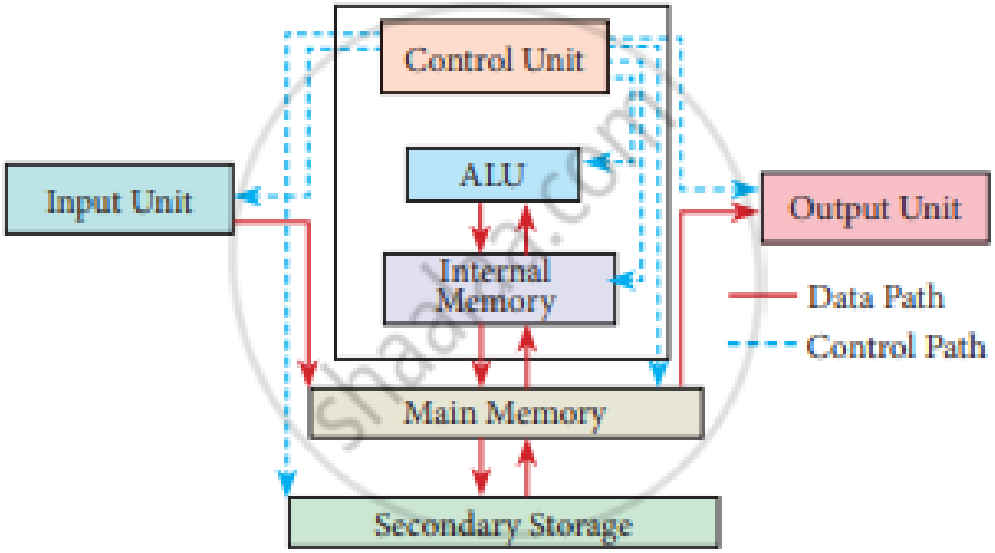
Q1: What are the four fundamental parts of computer? Explain it with the help of diagram.



1. Input Unit:- The input unit is used to feed any form of data to the computer. Example: Keyboard, Mouse etc.
2. Central Processing Unit:- The CPU is the major component that interprets and executes software instructions. It also controls the operation of all other components such as memory, input, and output units.
3. Arithmetic and Logic Unit: The ALU is a part of the CPU where various computing functions are performed on data. The ALU performs arithmetic operations such as addition, subtraction, multiplication, division, and logical operations.
4. Control Unit: The control unit controls the flow of data between the CPU, memory, and I/O devices. It also controls the entire operation of a computer.
5. Output Unit: an output unit is any hardware component that conveys information to users in an understandable form. Example Monitor Printer etc

Q2: Discuss about the classification of computers based on size and capacity.

Answer; **Computer Classification**

A computer is a device that transforms unusable data into information. According to the set of instructions the user gives it, it processes the input and generates the desired outcome. Modern digital computers are classified on the basis of their size and capacity. The size and data handling capabilities of the various types of computers may be used to categorize them into two groups.

Classification of Computers

Different classifications of Computers are as follows.

Classification According to Size

There are four different sorts of computers based on their size and how they are configured to operate:

1. Supercomputers

The most efficient computers in terms of processing data and performance are supercomputers. These computers are used for research and exploratory purposes. Supercomputers are exceedingly large and highly expensive. It can only fit in large, air-conditioned spaces.
Supercomputers are used for a range of tasks, such as space exploration, seismic research, and the testing of nuclear weapons.

Supercomputer Features:

- They make use of AI (Artificial intelligence)
- They are the fastest and strongest;
- They are very costly.
- They are enormous in size.
- They are employed by companies that manufacture goods.
- They process information at a rapid rate.

2. Mainframe Computers

Despite being less efficient than supercomputers, mainframe computers are nevertheless extremely expensive. Large corporations and governmental organizations frequently employ mainframe computers to run everyday operations. They have the ability to store and analyze a lot of data. To maintain information on their customers, students, and insurance policyholders, banks, colleges, and insurance companies utilize them. They may also act as a server in a network environment. Hundreds of users may be managed simultaneously by them.

Mainframe Computer Features:

- They have enormous amounts of memory.
- They are capable of running several different operating systems.
- They have a significant number of CPUs with powerful processing speeds.
- Tightly Coupled Clustering Technology is employed.

3. Minicomputers

Minicomputers are used by small businesses and industries. They go by the term "Midrange Computers." These minicomputers frequently have several users, just as mainframe computers. They are a bit slower than mainframe computers For example, the manufacturing department may employ minicomputers to keep an eye on specific production processes.

Features of Minicomputers:

- It is smaller than mainframes or supercomputers in terms of size.
- In comparison to a mainframe or supercomputer, it is less costly.
- It is able to perform many jobs at once.
- It may be utilized by several users simultaneously.
- It is utilized by small businesses.

4. Microcomputers.

A microcomputer, sometimes referred to as a personal computer (PC), is a type of computer that runs on a smaller scale than traditional computers (Personal Computer). A component that is commonly referred to as a

motherboard houses the central processing unit (CPU), a microprocessor, memory in the form of ROM (Read Only Memory), RAM (Random Access Memory), I/O ports, and a bus system of connecting wires. They are the most affordable.

Features of Microcomputers:

- They are extensively employed for personal usage.
- They are smaller and comparably less expensive.
- Multi-user functionality is not supported.
- It has a limited computational capacity.
- They are quite simple to use.

Based on Capacity

According to fundamental operating principles, there are three different kinds of computers. They are as follows:

1. Analogous Computers

Analog computers process analog data. Temperature, pressure, weight, depth, and voltage are a few examples of this type of data. These have an infinite range of values and are continuous quantities.
The first computers were analog, and they laid the groundwork for today's digital computers.

2. Digital Computers

In digital computers, letters, numbers, and other special symbols are represented by digits. On-off (ON-OFF) inputs are used by digital computers, and ON-OFF signals are also generated by them.

An ON is often represented by a 1 and an OFF by a 0, respectively. A digital computer is capable of processing both numerical and non-numerical data. In addition to doing fundamental arithmetic operations like addition, subtraction, multiplication, and division, it can also perform logical operations.

3. Hybrid Computers

Computers that combine digital and analog components are called hybrid computers. It combines the best features of both types, having the speed of an analog computer with the memory and precision of a digital computer. Hybrid computers are typically used in specific applications where both forms of data need to be processed. As an example, a gas pump contains a processor that converts measurements of fuel flow into information about quality and cost.

Q3: What is the meaning of computer generation? How many Computer Generations are

defined? What technologies were/are used?

Answer:- A computer is an electronic device that manipulates information or data. It can store, retrieve, and process data.
Nowadays, a computer can be used to type documents, send an email, play games, and browse the Web. It can also be used to edit or create spreadsheets, presentations, and even videos. But the evolution of this complex system started around 1940 with the First Generation of computers and evolving ever since.

Computers have evolved significantly over the years, and the history of computers is often divided into generations based on the technology used. Here are the five generations of computers:

1. First Generation (1940s-1950s): The first computers used vacuum tubes for processing and magnetic drums for storage. They were large, expensive, and unreliable.
2. Second Generation (1950s-1960s): The second generation of computers replaced vacuum tubes with transistors, making them smaller, faster, and more reliable.

Magnetic core memory was also introduced, which was faster and more reliable than magnetic drums.

3. Third Generation (1960s-1970s): The third generation of computers used integrated circuits, which allowed for even smaller and faster computers. They also introduced magnetic disk storage and operating systems.
4. Fourth Generation (1970s-1980s): The fourth generation of computers saw the introduction of microprocessors, which made personal computers possible. They also introduced graphical user interfaces and networking.
5. Fifth Generation (1980s-Present): The fifth generation of computers is still ongoing, and is focused on artificial intelligence and parallel processing. This generation also saw the development of mobile computing and the internet.

First Generation Computers

The technology behind the primary generation computers was a fragile glass device, which was called a vacuum tube. These computers were very heavy and really large. These weren't very reliable and programming on them was a tedious task as they used low-level programming language and used no OS. First-generation computers were used for calculation, storage, and control purpose. They were too bulky and large that they needed a full room and consume a lot of electricity. Punch cards were used for improving the information for external storage. Magnetic card used . Machine and assembly language is developed.

Examples of some main first-generation computers are mentioned below.

- **ENIAC:** Electronic Numerical Integrator and Computer, built by J. Presper Eckert and John V. Mauchly was a general-purpose computer. It had been cumbersome, and large, and contained 18,000 vacuum tubes.
- **EDVAC:** Electronic Discrete Variable Automatic Computer was designed by von Neumann. It could store data also as instruction and thus the speed was enhanced.
- **UNIVAC:** Universal Automatic Computer was developed in 1952 by Eckert and Mauchly.

Characteristics of First-Generation Computers

Characteristics	Components
Main electronic component	Vacuum tube.
Programming language	Machine language.
Main memory	Magnetic tapes and magnetic drums.
Input/output devices	Paper tape and punched cards.
Speed and size	Very slow and very large (often taking up an entire room).
Examples of the first generation	IBM 650, IBM 701, ENIAC, UNIVAC1, etc.

Second Generation Computers

Second-generation computers used the technology of transistors rather than bulky vacuum tubes. Another feature was the core storage. A transistor may be a device composed of semiconductor material that amplifies a sign or opens or closes a circuit.

Transistors were invented in Bell Labs. The use of transistors made it possible to perform powerfully and with due speed. It reduced the dimensions and price and thankfully the warmth too, which was generated by vacuum tubes. Central Processing Unit (CPU), memory, programming language, and input, and output units also came into the force within the second generation.
The programming language was shifted from high level to programming language and made programming comparatively a simple task for programmers. Languages used for programming during this era were FORTRAN (1956), ALGOL (1958), and COBOL (1959).

Characteristics of Second-Generation Computers

Characteristics	Components
Main electronic component	Transistor.
Programming language	Machine language and assembly language.
Memory	Magnetic core and magnetic tape/disk.
Input/output devices	Magnetic tape and punched cards.
Power and size	Smaller in size, had low power consumption, and generated less heat (in comparison with the first-generation computers).
Examples of the second generation	PDP-8, IBM1400 series, IBM 7090 and 7094, UNIVAC 1107, CDC 3600, etc.

Third Generation Computers

During the third generation, technology envisaged a shift from huge transistors to integrated circuits, also referred to as IC. Here a variety of transistors were placed on silicon chips, called semiconductors. The most feature of this era's computer was speed and reliability. IC was made from silicon and also called silicon chips.
The computer programs was designed to make the machine work. Operating system was a program designed to handle a machine completely. Because of the operating system machine could execute multiple jobs simultaneously. Integrated circuits were used to replace many transistors used in the second generation.
A single IC has many transistors, registers, and capacitors built on one thin slice of silicon. The value size was reduced and memory space and dealing efficiency were increased during this generation. Programming was now wiped out Higher level languages like BASIC (Beginners All-purpose Symbolic Instruction Code). Minicomputers find their shape during this era.

Characteristics of Third-Generation Computers

Characteristics	Components
Main electronic component	Integrated circuits (ICs).
Programming language	High-level language.
Memory	Large magnetic core, magnetic tape/disk.

Characteristics	Components
Input/output devices	Magnetic tape, monitor, keyboard, printer, etc.
Examples of the third generation	IBM 360, IBM 370, PDP-11, NCR 395, B6500, UNIVAC 1108, etc.

Fourth Generation Computers

In 1971 First microprocessors were used, the large-scale of integration LSI circuits built on one chip called microprocessors. The advantage of this technology is that one microprocessor can contain all the circuits required to perform arithmetic, logic, and control functions on one chip. LSI placed thousands of transistors onto a single chip.

The computers using microchips were called microcomputers. This generation provided even smaller size of computers, with larger capacities. That's not enough, then Very Large Scale Integrated (VLSI) circuits replaced LSI circuits. The Intel 4004 chip, developed in 1971, located all the components of the pc from the central processing unit and memory to input/ output controls on one chip and allowed the dimensions to reduce drastically. VLSI placed several hundred thousand transistors on a single silicon chip. This silicon chip is known as the micro processor.

Technologies like multiprocessing, multiprogramming, time-sharing, operating speed, and virtual memory made it a more user-friendly and customary device. The concept of private computers and computer networks came into being within the fourth generation.

Characteristics of Fourth-Generation Computers

Characteristics	Components
Main electronic component	Very-large-scale integration (VLSI) and the microprocessor (VLSI has thousands of transistors on a single microchip).
Memory	semiconductor memory (such as RAM, ROM, etc.).
Input/output devices	pointing devices, optical scanning, keyboard, monitor, printer, etc.
Examples of the fourth generation	IBM PC, STAR 1000, APPLE II, Apple Macintosh, Alter 8800, etc.

Fifth Generation Computers

The technology behind the fifth generation of computers is AI. It allows computers to behave like humans. It is often seen in programs like voice recognition, area of medicine, and entertainment. Within the field of game playing also it's shown remarkable performance where computers are capable of beating human competitors.

The speed is the highest, size is the smallest and area of use has remarkably increased within the fifth generation computers. Though not a hundred percent AI has been achieved to date but keeping in sight the present developments, it is often said that this dream also will become a reality very soon.

To summarize the features of varied generations of computers, it is often said that a big improvement has been seen so far because of the speed and accuracy of functioning care, but if we

mention the dimensions, it's been small over the years. The value is additionally diminishing and reliability is increasing.

Characteristics of Fifth-Generation Computers

Characteristics	Components
Main electronic component	Based on artificial intelligence, uses the Ultra Large-Scale Integration (ULSI) technology and parallel processing method (ULSI has millions of transistors on a single microchip and the Parallel processing method use two or more microprocessors to run tasks simultaneously).
Language	Understand natural language (human language).
Size	Portable and small in size.
Input/output device	Trackpad (or touchpad), touchscreen, pen, speech input (recognize voice/speech), light scanner, printer, keyboard, monitor, mouse, etc.
Example of the fifth generation	Desktops, laptops, tablets, smartphones, etc.

Q4: Differentiate between Volatile & Non- Volatile memories.

Answer: **Volatile Memory:**
It is the memory hardware that fetches/stores data at a high-speed. It is also referred as temporary memory. The data within the volatile memory is stored till the system is capable of, but once the system is turned off the data within the volatile memory is deleted automatically. RAM (Random Access Memory) and Cache Memory are some common examples of volatile memory. Here, data fetch/store is fast and economical.
Non-Volatile Memory:
It is the type of memory in which data or information is not lost within the memory even power is shut-down. ROM (Read Only Memory) is the most common example of non-volatile memory. It's not economical and slow in fetch/store as compared to volatile memory however stores higher volume of data. All such information that needs to be stored for an extended amount of time is stored in non-volatile memory. Non-volatile memory has a huge impact on a system's storage capacity.
Below are the differences between volatile and non-volatile memory:

S. No.	Volatile Memory	Non-Volatile Memory
1.	Volatile memory is the type of memory in which data is lost as it is powered-off.	Non-volatile memory is the type of memory in which data remains stored even if it is powered-off.

S. No.	Volatile Memory	Non-Volatile Memory
2.	Contents of Volatile memory are stored temporarily.	Contents of Non-volatile memory are stored permanently.
3.	It is faster than non-volatile memory.	It is slower than volatile memory.
4.	**RAM(Random Access Memory)** is an example of volatile memory.	**ROM(Read Only Memory)** is an example of non-volatile memory.
5.	In volatile memory, data can be easily transferred in comparison to non-volatile memory.	In non-volatile memory, data can not be easily transferred in comparison to volatile memory.
6.	In Volatile memory, process can read and write.	In Non-volatile memory, process can only read.
7.	Volatile memory generally has less storage capacity.	Non-volatile memory generally has more storage capacity than volatile memory.
8.	In volatile memory, the program's data are stored which are currently in process by the CPU.	In non-volatile memory, any kind of data which has to be saved permanently are stored.
9.	Volatile memory is more costly per unit size.	Non-volatile memory is less costly per unit size.
10.	Volatile memory has a huge impact on the system's performance.	Non-volatile memory has a huge impact on a system's storage capacity.
11.	In volatile memory, processor has direct access to data.	In non-volatile memory, processor has no direct access to data.
12.	Volatile memory chips are generally kept on the memory slot.	Non-volatile memory chips are embedded on the motherboard.
13.	**Advantages-** • Fast speed • Low power consumption • Better system performance as it increases speed	**Advantages-** • More reliable • Stores data permanently • Inexpensive memory • Helps in booting of operating system
14.	**Disadvantages-** • Expensive • Limited storage space • Stores data temporarily	**Disadvantages-** • Slow speed • Can only read data

Q5: Distinguish among system software, application software and open source software on the

basis of their features.

Answer: Computer Software is a sort of program that allows clients to work on different assignments or use them to work on their System. It tells the working and responsibilities of the System. Basically, Software is a set of instructions or commands that tells a user how to do and what to do.

Types of Software

1. System Software
2. Application Software

System Software

System Software is the type of software that is the interface between application software and the system. Low-level languages are used to write the system software. System Software maintains the system resources and gives the path for application software to run. An important thing is that without system software, the system can not run. It is general-purpose software.

Functions of System Software

- Memory Management
- Processor Management
- File Management
- Security
- Error-detecting Aids
- Scheduling

Features of System Software

- System software is written in a low-level language.
- The size of the system Software is smaller.
- System software is complex to understand.
- System software is present near hardware components.

Types of System Software

- **Operating System:** Operating System is the main part of the Computer System. It has the responsibility of managing all the resources such as CPU, Printer, Hard Disk, etc. It also provides services to many other Computers Softwares. Examples of Operating Systems are Linux, Apple, macOS, Microsoft Windows, etc.
- **Language Processor:** System Software converts Human-Readable Language into a Machine Language and it is done by Language Processor. It converts programs into instructions that are easily readable by Machines.
- **Device Driver:** A Device Driver is a program or software that helps to perform its functions by controlling the device. You first have to install a driver for running the program.

Application Software

Application Software is the type of software that runs as per user request. It runs on the platform which is provided by system software. High-level languages are used to write the application software. It's a specific purpose software. The main difference between System Software and Application Software is that without system software, the system can not run on the other hand without application software, the Low-level maintenance system always runs.

Functions of Application Software

- Information and data management
- Management of documents (document exchange systems)
- Development of visuals and video
- Emails, text messaging, audio, and video conferencing, and cooperation are all options.
- Management of accounting, finance, and payroll
- Management of resources (ERP and CRM systems)

Features of Application Software

- Application software is written in a high-level language.
- Application software requires more storage space than system software.
- Only a single task is performed by each application software.
- Application Software is easy to build in comparison to system software.

Types of Application Software

1. **General Purpose Software:** This Application Software is used to perform tasks that are used for a variety of tasks, just not limited to a specific task only. For Example, MS Word, MS Excel, etc.
2. **Customized Software:** It is used to perform tasks that are designed for specific organizations. For Example, Railway Reservation System, Airline Reservation System, etc.
3. **Utility Software:** It is used to support the architecture of the Computer. It is designed for optimizing and maintaining the system and also taking care of its requirements.

System Software	Application Software
System Software maintains the system resources and gives the path for application software to run.	Application software is built for specific tasks.
Low-level languages are used to write the system software.	While high-level languages are used to write the application software.
It is general-purpose software.	While it’s a specific purpose software.
Without system software, the system stops and can’t run.	While Without application software system always runs.
System software runs when the system is turned on and stops when the system is turned off.	While application software runs as per the user’s request.
Example: System software is an operating system, etc.	Example: Application software is Photoshop, VLC player, etc.
System Software programming is more complex than application software.	Application software programming is simpler in comparison to system software.

System Software	Application Software
The Software that is designed to control, integrate and manage the individual hardware components and application software is known as system software.	A set of computer programs installed in the user's system and designed to perform a specific task is known as application software.
A system software operates the system in the background until the shutdown of the computer.	Application software runs in the front end according to the user's request.
The system software has no interaction with users. It serves as an interface between hardware and the end user.	Application software connects an intermediary between the user and the computer.
System software runs independently.	Application software is dependent on system software because they need a set platform for its functioning.

Q6. a) Create a file in MS-word to insert a paragraph about yourself and save it with file name

"yourself". Describe all steps involved in it.

Answer: To create a new document:

1. Click the Microsoft Office button.
2. Select New. The New Document dialog box appears.
3. Select Blank document under the Blank and recent section. It will be highlighted by default.
4. Click Create. A new blank document appears in the Word window.

Insert Paragraph

1. Open Microsoft Word and open or create a document
2. Place your cursor where you want to insert the text
3. Type the text you want to insert
4. Press Enter

To save a document:

1. From the File menu, select Save As…
2. The Save As dialog box will display.
3. Choose a location on your computer to save your file. ...
4. Next to File Type is a drop down menu; select Rich Text Format (.rtf) or Microsoft Word (*.doc).
5. Click Save.

Q6 b) Write steps regarding followings

 To change the font style

Answer: **Changing the Font Style**

1. If you have already started typing before changing the font style, select your text. Click on the Home tab.
2. Look for the Font options.
3. From the drop down menu select the font you want to use. ...
4. In the drop down menu next to the font style, you can change the font size.

 To change the font size

Answer: **Change the size of selected text**

1. Select the text or cells with text you want to change. To select all text in a Word document, press Ctrl + A.
2. On the Home tab, click the font size in the Font Size box. You can also type in any size you want, within the following limits:

 To change the font color

Answer: 1. Select the text: Highlight the specific text you want to change the color of. You can select a single word, a sentence, a paragraph, or the entire document.

2. Locate the "Font Color" button:** Navigate to the Home tab in the ribbon menu. Within the Font section, you'll find the Font Color button represented by a letter "A" with a colored dropdown arrow.

3. Choose a color:** Click the Font Color button to reveal a palette of pre-selected colors. You can choose from Theme Colors that match your document theme or Standard Colors for a wider range.

 To highlight (in yellow) the line that reads “need to get IMS’s address”.

Answer: Click 'Format' in toolbar.

1. Click 'Style'.
2. Click the Gear.
3. Click the 'Character Fill Color' Button.
4. Click the yellow crayon from the Colors popup.

Q7. Create a file in MS-Word for the following document and save it with file name ‘ms_word’. Describe all steps involved in it.

Answer: Steps:

1. Opening MS Word:
    - Click on the Start Menu/Windows icon.
    - Type "Word" in the search bar.
    - Click on the "Microsoft Word" application to launch it.

2. Creating a Blank Document:
    - By default, a blank document will be created automatically.
    - Alternatively, you can select "File" > "New" > "Blank document" from the top menu.
3. Adding Content:
    - Start typing your document content.
    - Use the formatting tools on the ribbon to customize the text, fonts, styles, etc.
    - You can insert images, tables, charts, and other elements using the respective buttons on the ribbon.
4. Saving the Document:
    - Click on "File" > "Save As" from the top menu.
    - In the "File name" box, type "ms word" (without quotes).
    - Choose a location to save the file (e.g., Desktop, Documents folder).
    - Click on the "Save" button.

Q8. Create a file in MS-word for the following document and save it with file name ‘equations’. Describe all steps involved in it.

Answer: 1. Open Microsoft Word:

Locate the Word application on your computer and launch it.

2. Create a Blank Document:

On the main screen, select "Blank document" or press Ctrl+N on your keyboard.

3. Enter the Equations:

Type or paste the equations you want to include in the document. You can use the Equation Editor tool in Word to insert complex mathematical symbols and expressions. To access it:

- Go to the Insert tab.
- Click on the Equation button.
- Choose the equation template or symbol you need from the menu.

4. Format the Equations:

You can customize the appearance of your equations by changing the font size, style, and alignment.

- Select the equation you want to modify.
- Use the options available in the Equation Tools Design and Format tabs.

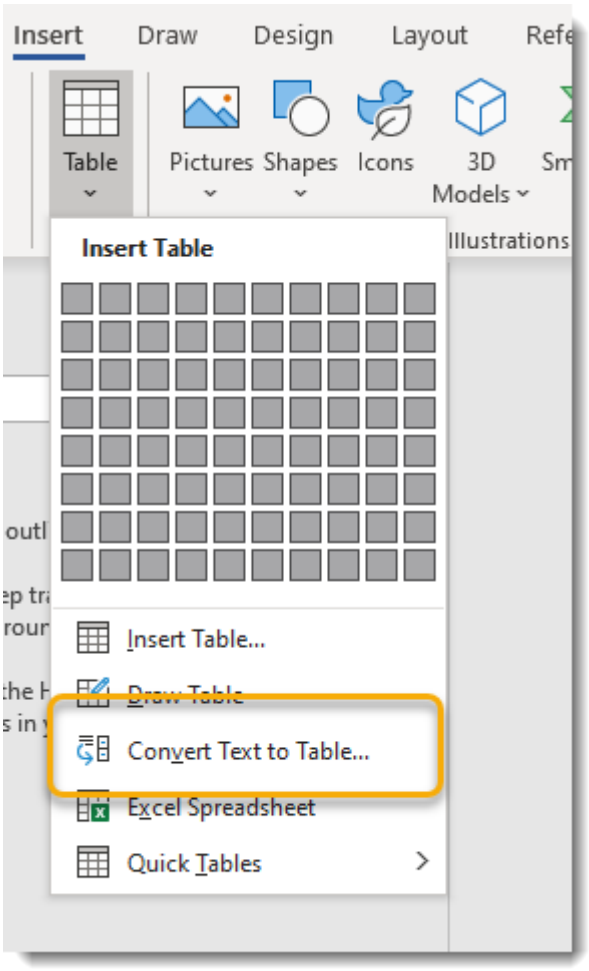
5. Save the Document:
    - Click on the File tab.
    - Select Save As.
    - In the File name box, type "equations" (without quotes).
    - Choose a location to save the file (e.g., Desktop, Documents folder).
    - Click Save.

Q9. Create a file in MS-word that convert existing highlight text to table as shown below and save it as file name ‘text_to_table’. Describe all steps involved in it.

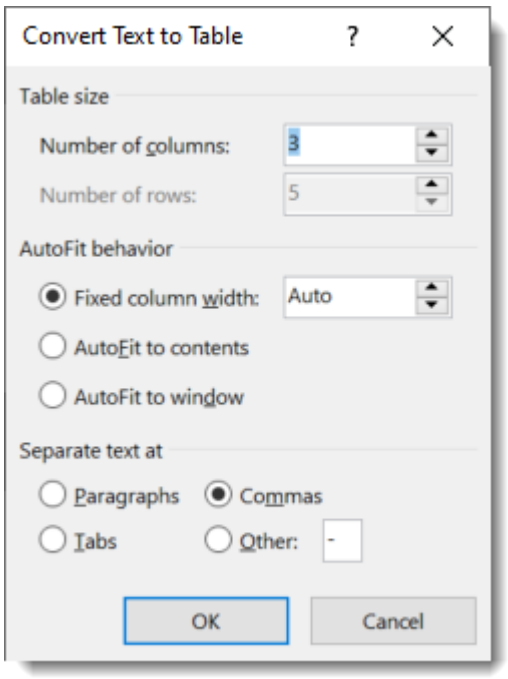
Answer: I am going to use the example of the comma separated values above.

1. **Highlight** the block of text.

2. Go to the **Insert** tab and select the **Table** dropdown. Select **Convert Text to Table…**



3. Word will guess the delimiter. In my case, Word has caught on that the values are separated by commas. Note you could change the delimiter under the **Separate text at** section, if Word does not pick up on it automatically.

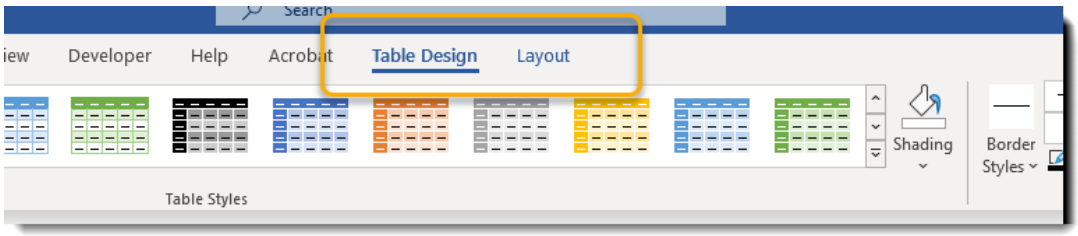


4. Press **OK** and a simple table will be created with the text values you highlighted.

Name	Planet	Species
Picard	Earth	Human
Data	Earth	Android
Worf	Klingon	Kronos
Troi	Betazoid	Betazed

Don’t forget… you have a lot of options for styles and formatting in the Table **Design** and **Layout** tabs.

Make sure you have clicked onto your table for these to appear, as they are contextual tabs.



I always go for green for some reason…

Name	Planet	Species
Picard	Earth	Human
Data	Earth	Android
Worf	Klingon	Kronos
Troi	Betazoid	Betazed

Q10. Create a file in MS-Word to insert a table in the document. Describe all steps involved in it.

Answer: Open Microsoft Word: Launch the application on your computer.

1. Create a New Document: Click "File" > "New" or select the "Blank Document" template.
2. Position the Cursor: Place your cursor where you want the table to appear in the document.
3. Insert the Table:
    - Quick Method: Click the "Insert" tab on the ribbon. Hover over the "Table" icon and drag your cursor to select the desired number of columns and rows. Click the selected grid to insert the table.
    - Custom Method: Click the "Insert" tab > "Table" > "Insert Table...". A dialog box will appear. Enter the desired number of columns and rows in the respective fields. You can also choose the table's width and AutoFit behavior here. Click "OK" to insert the table.
4. Customize the Table:
    - Resize: Drag the table borders or cell edges to adjust the size.
    - Add/Remove Rows & Columns: Right-click on a cell and select "Insert" or "Delete" options for rows/columns.
    - Merge/Split Cells: Right-click and choose "Merge Cells" or "Split Cells" options.
    - Text Formatting: Select cells and apply formatting options like font size, style, and alignment.
    - Borders & Shading: Click the "Table Design" tab and choose border styles, colors, and shading options.
5. Save the Document: Click "File" > "Save" and choose a file name and location.

Q11. Create a following worksheet in MS-excel and save it with name ‘book1’.

Answer **Step 1:** Open MS Excel.
Step 2: Go to Menu and select New >> Click on the Blank workbook to create a simple worksheet.
OR – Press Ctrl + N: To create a new spreadsheet.
Step 3: By default, Sheet 1 will be created as a worksheet in the spreadsheet. The spreadsheet’s name will be Book 1 if you open it for the first time.

Q12. Calculate the following things of a range (C2:C11) of data in the worksheet created in question no

 the sum of the marks using AutoSum in a range of cells (C2:C11)

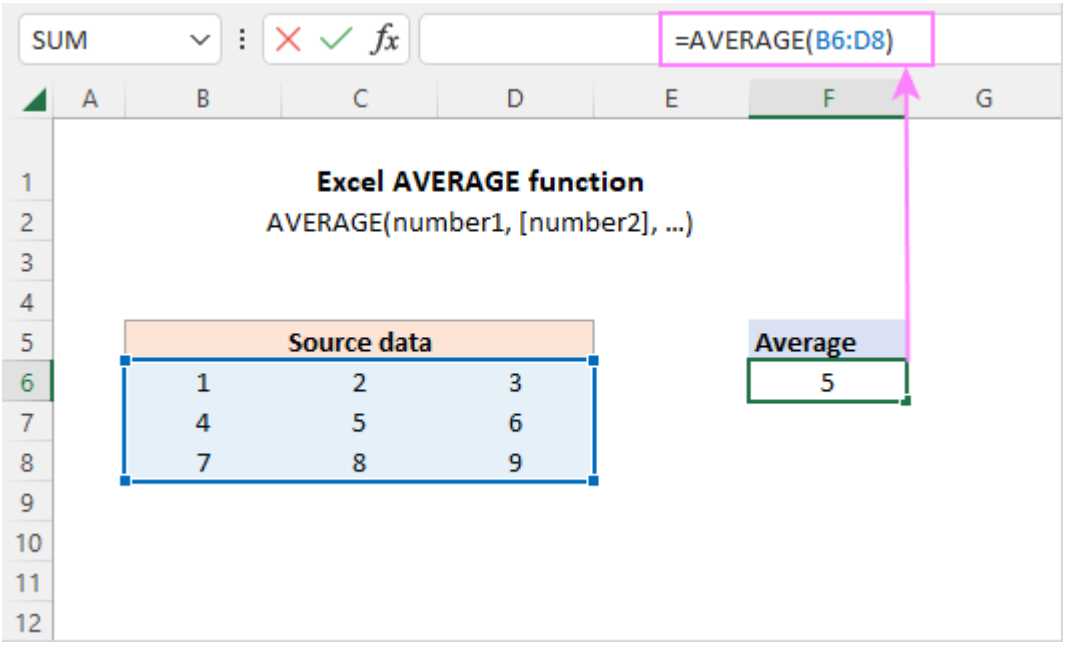
Answer: To create the formula:

1. Type **=SUM** in a cell, followed by an opening parenthesis **(**.
2. To enter the first formula range, which is called an *argument* (a piece of data the formula needs to run), type **A2:A4** (or select cell A2 and drag through cell A6).
3. Type a comma (,) to separate the first argument from the next.
4. Type the second argument, **C2:C3** (or drag to select the cells).
5. Type a closing parenthesis **)**, and then press Enter.

 average of the marks in a range of cells (C2:C11)

Answer:- Where **number1, number2**, etc. are numeric values for which you want to get the average. They can be supplied in the form of numeric values, arrays, cell or range references. The first argument is required, subsequent ones are optional. In one formula, you can include up to 255 arguments.

AVERAGE is available in all versions of Excel 365 though Excel 2007.



 highest marks in a range of cells (C2:C11)

Answer:- Here is the function syntax followed by a detailed breakdown of each parameter, including examples:

=MAXIFS(max_range, criteria_range1, criteria1, [criteria_range2, criteria2], ...)

The formula consists of several components that work together to perform the desired MAXIFS function. Let's understand each component in detail:

1. 'max_range' – This is the range of cells from which the maximum value will be determined. It is the primary set of data where Excel looks for the highest value based on the given criteria.
2. 'criteria_range1, criteria_range2,' etc. – These are the ranges of cells where the criteria are applied. Each 'criteria_range' corresponds to a criterion (criteria1, criteria2, etc.) that defines what cells in the 'max_range' should be considered for finding the maximum value.
3. 'criteria1', 'criteria2', etc. – These are the conditions that the corresponding criteria_range must meet in order for the cells in max_range to be considered. Conditions can be numeric, text (such as names or labels), or date values, and they can include logical operators (like >, <, =, etc.).

Example Formula:

=MAXIFS(A1:A10, B1:B10, “Electronics”, C1:C10, “North”)

In this formula:

- A1:A10 is where the sales figures are stored (‘max_range’).
- B1:B10 is the range that contains the product categories (criteria_range1).
- “Electronics” specifies the condition that the category must be “Electronics” (criteria1).
- C1:C10 is the range that contains the regions (criteria_range2).
- “North” specifies the condition that the region must be “North” (criteria2)

This formula will review the sales figures in the range A1:A10, but only consider those figures where the corresponding cells in B1:B10 are “Electronics,” and those in C1:C10 are “North”. The result will be the highest sales figure meeting these conditions.

 minimum marks in a range of cells (C2:C11)

Answer:
What you're describing is "percentile". Excel's percentile function interpolates, so I'm not sure it's appropriate for your use case.

At the very least, you can compute the percentile, then take the minimum score of all values filtered to be above the interpolated 50th percentile.

Here's a slightly clever implementation:

Assume your data is in the range C2:C11.
In c13, we'll compute the 50th percentile as =PERCENTILE(C2:C11, 0.5) In column d, we'll use an IF statement to either select the adjacent value from column c, or a very large number, depending on whether the value is greater than the percentile. E.g., =IF(C2 > C13,C2,400000)
Now we can take the min of column d: =MIN(D2:D11)
The only clever bit is using a giant number when the value in column c is less than the percentile, so that it effectively becomes invisible to the min operation.

Q13 a) Describe various steps involved in the following

 To modify column width of a worksheet

Answer: You can
and rows to fit th

Resize columns
1. Sel
2. On
3. Typ

To modify the
Answer: **Resize r**
1. Sel
2. On
3. Typ

	A	B	C	D	E
3	MENU ITEM	UNIT PRICE	QUANTITY	LINE TOTAL	
4	Empanadas: Beef Picadillo	$2.99	15		
5	Empanadas: Chipotle Shrimp	$3.99	10		
6	Tamales: Chicken Tinga	$2.29	20		
7	Tamales: Vegetable	$2.29	30		
8	Arepas: Carnitas	$2.89	10		
9	Arepas: Queso Blanco	$2.49	20		
10	Empanadas: Apple Cinnamon	$3.19	40		
11	Beverages: Horchata	$1.89	25		
12	Beverages: Lemonade	$1.89	35		
13	Beverages: Tamarindo	$1.89	10		
14			TOTAL	$0.00	
15					

To delete rows and columns of a worksheet

- Answer: Select the cells, rows, or columns that you want to delete.
- Right-click, and then select the appropriate delete option, for example, Delete Cells & Shift Up, Delete Cells & Shift Left, Delete Rows, or Delete Columns.

Q13 b) Describe following terms in the worksheet

Absolute reference and relative reference in formula

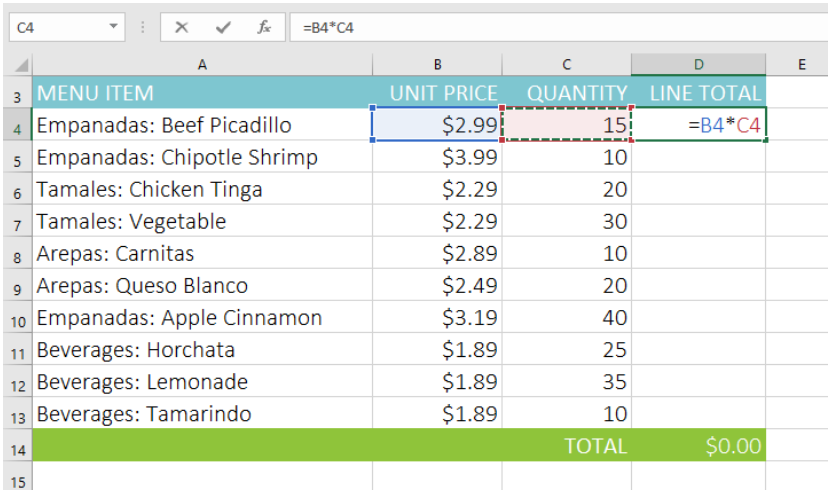
Answer: ***Relative references***

By default, all cell references are **relative references**. When copied across multiple cells, they change based on the relative position of rows and columns. For example, if you copy the formula **=A1+B1** from row 1 to row 2, the formula will become **=A2+B2**. Relative references are especially convenient whenever you need to repeat the same calculation across multiple rows or columns.

To create and copy a formula using relative references:

In the following example, we want to create a formula that will multiply each item's **price** by the **quantity**. Instead of creating a new formula for each row, we can create a single formula in cell **D4** and then copy it to the other rows. We'll use relative references so the formula calculates the total for each item correctly.

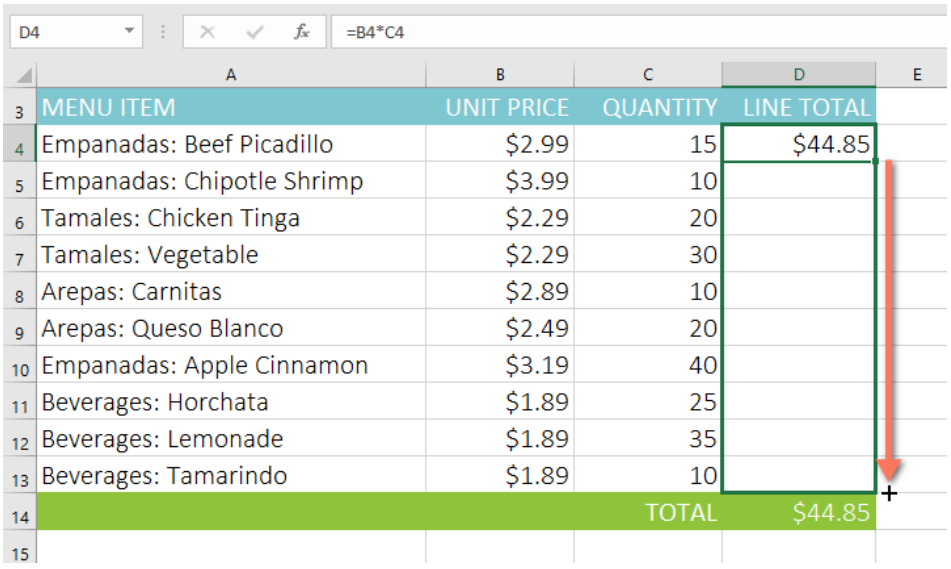
1. Select the **cell** that will contain the formula. In our example, we'll select cell **D4**.
2. Enter the **formula** to calculate the desired value. In our example, we'll type **=B4*C4**.



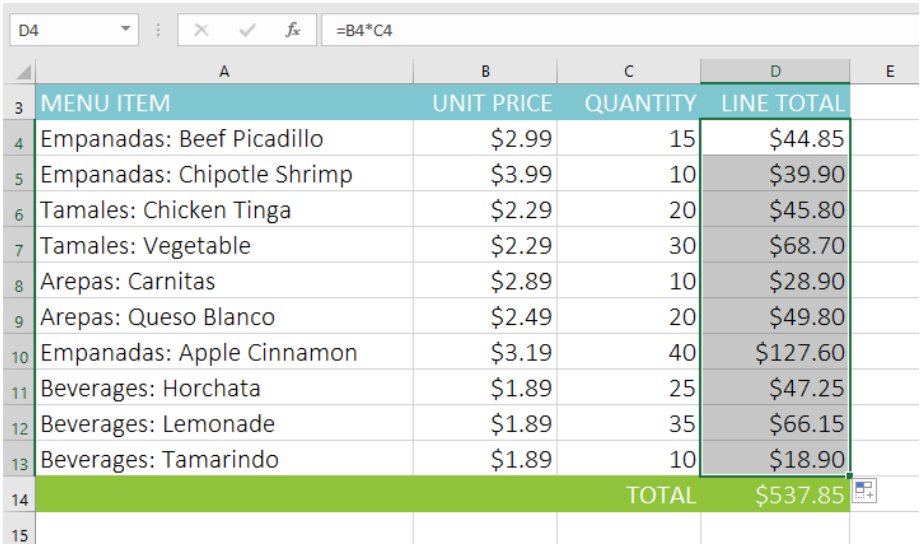
3. Press **Enter** on your keyboard. The formula will be calculated, and the result will be displayed in the cell.

4. Locate the **fill handle** in the bottom-right corner of the desired cell. In our example, we'll locate the fill handle for cell **D4**.

5. Click and drag the **fill handle** over the cells you want to fill. In our example, we'll select cells **D5:D13**.

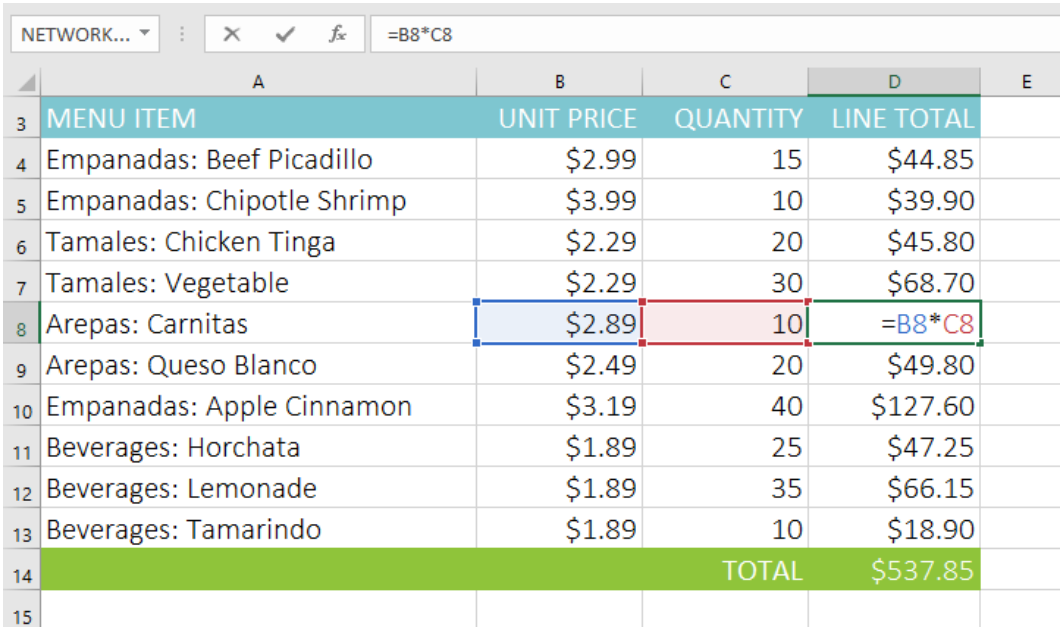


6. Release the mouse. The formula will be **copied** to the selected cells with **relative references**, displaying the result in each cell.



	A	B	C	D	E
3	MENU ITEM	UNIT PRICE	QUANTITY	LINE TOTAL	
4	Empanadas: Beef Picadillo	$2.99	15	$44.85	
5	Empanadas: Chipotle Shrimp	$3.99	10	$39.90	
6	Tamales: Chicken Tinga	$2.29	20	$45.80	
7	Tamales: Vegetable	$2.29	30	$68.70	
8	Arepas: Carnitas	$2.89	10	$28.90	
9	Arepas: Queso Blanco	$2.49	20	$49.80	
10	Empanadas: Apple Cinnamon	$3.19	40	$127.60	
11	Beverages: Horchata	$1.89	25	$47.25	
12	Beverages: Lemonade	$1.89	35	$66.15	
13	Beverages: Tamarindo	$1.89	10	$18.90	
14			TOTAL	$537.85	
15					

You can double-click the **filled cells** to check their formulas for accuracy. The relative cell references should be different for each cell, depending on their rows.



	A	B	C	D	E
3	MENU ITEM	UNIT PRICE	QUANTITY	LINE TOTAL	
4	Empanadas: Beef Picadillo	$2.99	15	$44.85	
5	Empanadas: Chipotle Shrimp	$3.99	10	$39.90	
6	Tamales: Chicken Tinga	$2.29	20	$45.80	
7	Tamales: Vegetable	$2.29	30	$68.70	
8	Arepas: Carnitas	$2.89	10	=B8*C8	
9	Arepas: Queso Blanco	$2.49	20	$49.80	
10	Empanadas: Apple Cinnamon	$3.19	40	$127.60	
11	Beverages: Horchata	$1.89	25	$47.25	
12	Beverages: Lemonade	$1.89	35	$66.15	
13	Beverages: Tamarindo	$1.89	10	$18.90	
14			TOTAL	$537.85	
15					

Absolute references

There may be a time when you don't want a cell reference to change when copied to other cells. Unlike relative references, **absolute references** do not change when copied or filled. You can use an absolute reference to keep a row and/or column **constant**.

An absolute reference is designated in a formula by the addition of a **dollar sign ($)**. It can precede the column reference, the row reference, or both.

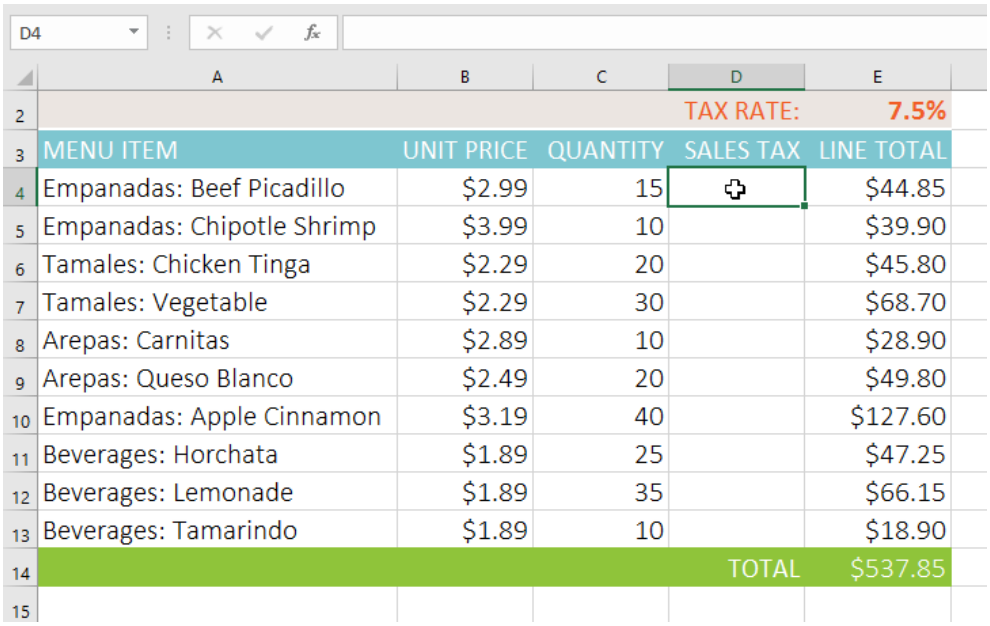
You will generally use the **A2** format when creating formulas that contain absolute references. The other two formats are used much less frequently.

When writing a formula, you can press the **F4** key on your keyboard to switch between relative and absolute cell references, as shown in the video below. This is an easy way to quickly insert an absolute reference.

To create and copy a formula using absolute references:

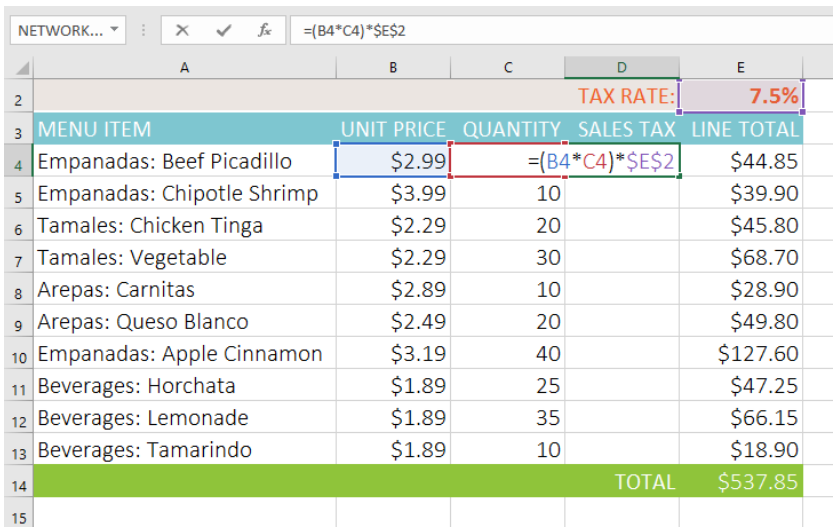
In the example below, we'll use cell **E2** (which contains the tax rate of 7.5%) to calculate the sales tax for each item in **column D**. To make sure the reference to the tax rate stays constant—even when the formula is copied and filled to other cells—we'll need to make cell **E2** an absolute reference.

1. Select the **cell** that will contain the formula. In our example, we'll select cell **D4**.



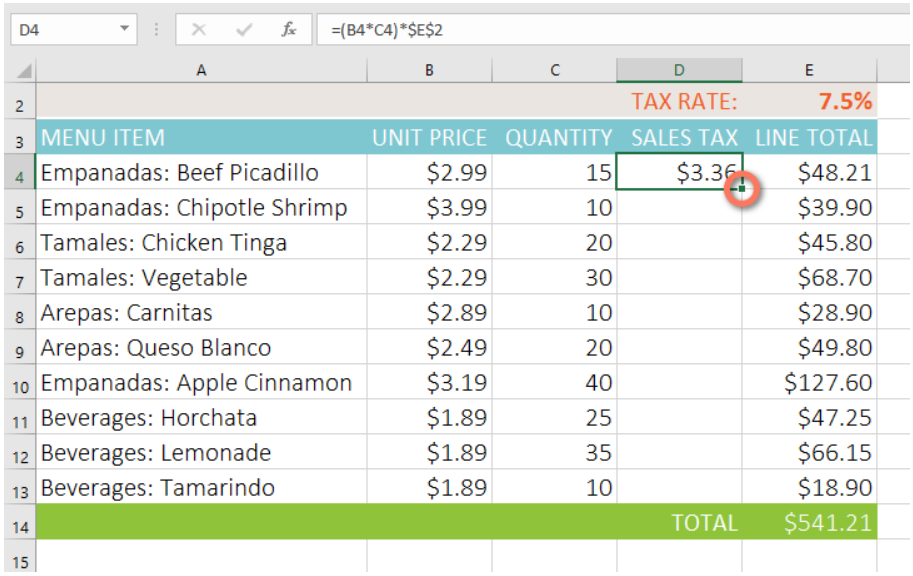
	A	B	C	D	E
2				TAX RATE:	7.5%
3	MENU ITEM	UNIT PRICE	QUANTITY	SALES TAX	LINE TOTAL
4	Empanadas: Beef Picadillo	$2.99	15		$44.85
5	Empanadas: Chipotle Shrimp	$3.99	10		$39.90
6	Tamales: Chicken Tinga	$2.29	20		$45.80
7	Tamales: Vegetable	$2.29	30		$68.70
8	Arepas: Carnitas	$2.89	10		$28.90
9	Arepas: Queso Blanco	$2.49	20		$49.80
10	Empanadas: Apple Cinnamon	$3.19	40		$127.60
11	Beverages: Horchata	$1.89	25		$47.25
12	Beverages: Lemonade	$1.89	35		$66.15
13	Beverages: Tamarindo	$1.89	10		$18.90
14				TOTAL	$537.85
15					

2. Enter the **formula** to calculate the desired value. In our example, we'll type **=(B4*C4)*E2**, making **E2** an absolute reference.



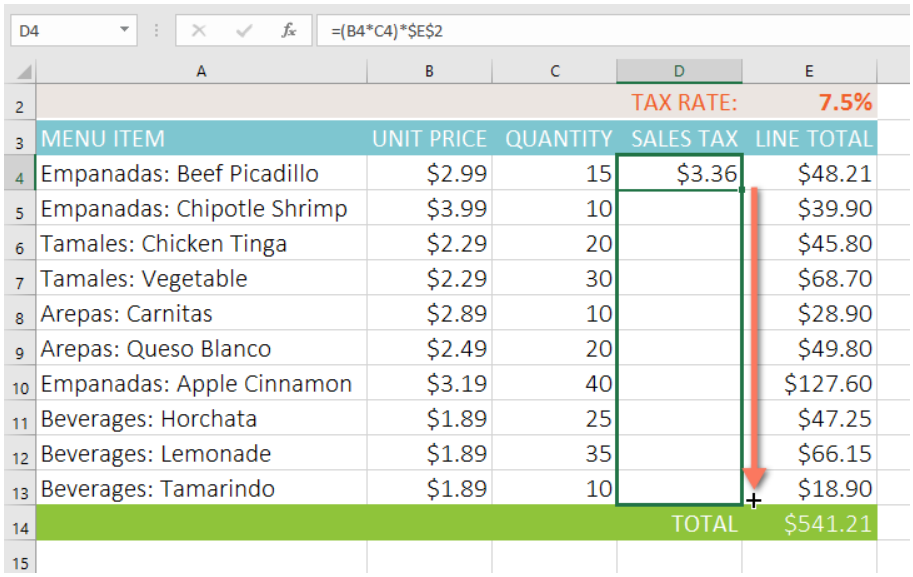
	A	B	C	D	E
2				TAX RATE:	7.5%
3	MENU ITEM	UNIT PRICE	QUANTITY	SALES TAX	LINE TOTAL
4	Empanadas: Beef Picadillo	$2.99	=(B4*C4)*E2		$44.85
5	Empanadas: Chipotle Shrimp	$3.99	10		$39.90
6	Tamales: Chicken Tinga	$2.29	20		$45.80
7	Tamales: Vegetable	$2.29	30		$68.70
8	Arepas: Carnitas	$2.89	10		$28.90
9	Arepas: Queso Blanco	$2.49	20		$49.80
10	Empanadas: Apple Cinnamon	$3.19	40		$127.60
11	Beverages: Horchata	$1.89	25		$47.25
12	Beverages: Lemonade	$1.89	35		$66.15
13	Beverages: Tamarindo	$1.89	10		$18.90
14				TOTAL	$537.85
15					

3. Press **Enter** on your keyboard. The formula will calculate, and the result will display in the cell.
4. Locate the **fill handle** in the bottom-right corner of the desired cell. In our example, we'll locate the fill handle for cell **D4**.



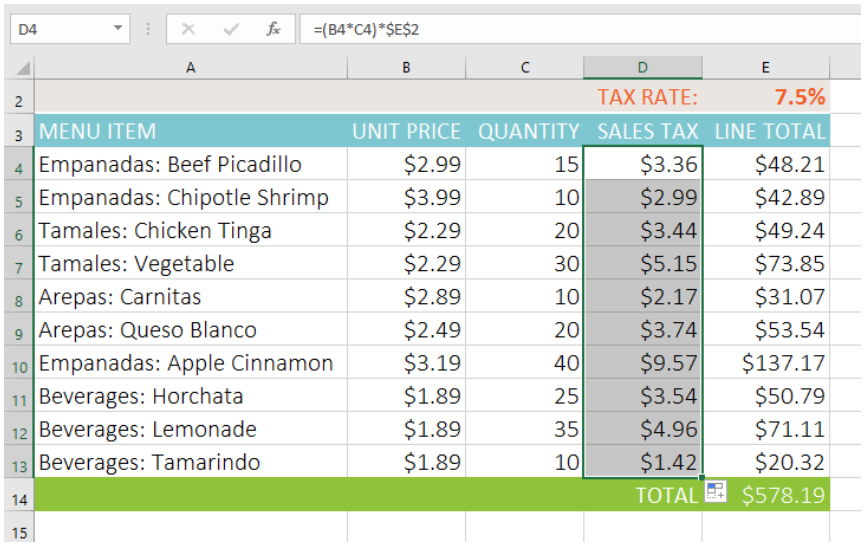
	A	B	C	D	E
2				TAX RATE:	7.5%
3	MENU ITEM	UNIT PRICE	QUANTITY	SALES TAX	LINE TOTAL
4	Empanadas: Beef Picadillo	$2.99	15	$3.36	$48.21
5	Empanadas: Chipotle Shrimp	$3.99	10		$39.90
6	Tamales: Chicken Tinga	$2.29	20		$45.80
7	Tamales: Vegetable	$2.29	30		$68.70
8	Arepas: Carnitas	$2.89	10		$28.90
9	Arepas: Queso Blanco	$2.49	20		$49.80
10	Empanadas: Apple Cinnamon	$3.19	40		$127.60
11	Beverages: Horchata	$1.89	25		$47.25
12	Beverages: Lemonade	$1.89	35		$66.15
13	Beverages: Tamarindo	$1.89	10		$18.90
14				TOTAL	$541.21
15					

5. Click and drag the **fill handle** over the cells you want to fill (cells **D5:D13** in our example).



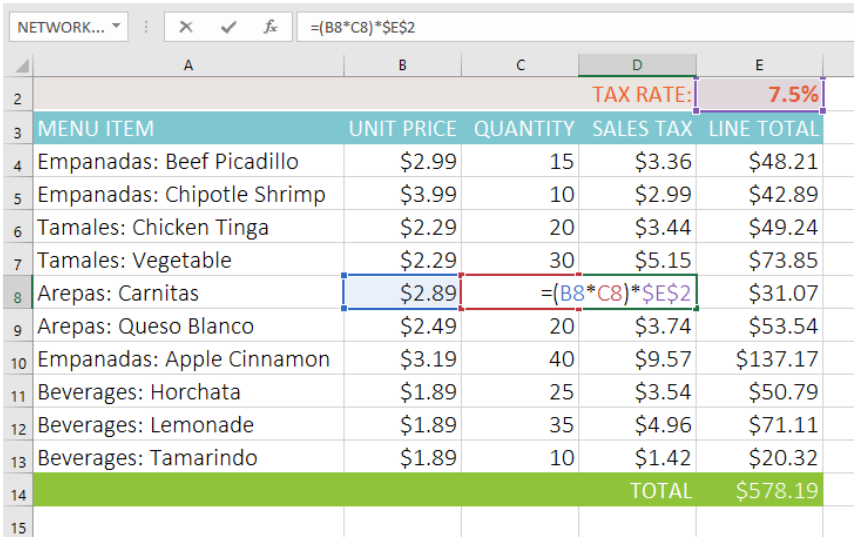
	A	B	C	D	E
2				TAX RATE:	7.5%
3	MENU ITEM	UNIT PRICE	QUANTITY	SALES TAX	LINE TOTAL
4	Empanadas: Beef Picadillo	$2.99	15	$3.36	$48.21
5	Empanadas: Chipotle Shrimp	$3.99	10		$39.90
6	Tamales: Chicken Tinga	$2.29	20		$45.80
7	Tamales: Vegetable	$2.29	30		$68.70
8	Arepas: Carnitas	$2.89	10		$28.90
9	Arepas: Queso Blanco	$2.49	20		$49.80
10	Empanadas: Apple Cinnamon	$3.19	40		$127.60
11	Beverages: Horchata	$1.89	25		$47.25
12	Beverages: Lemonade	$1.89	35		$66.15
13	Beverages: Tamarindo	$1.89	10		$18.90
14				TOTAL	$541.21
15					

6. Release the mouse. The formula will be **copied** to the selected cells with an **absolute reference**, and the values will be calculated in each cell.



	A	B	C	D	E
2				TAX RATE:	7.5%
3	MENU ITEM	UNIT PRICE	QUANTITY	SALES TAX	LINE TOTAL
4	Empanadas: Beef Picadillo	$2.99	15	$3.36	$48.21
5	Empanadas: Chipotle Shrimp	$3.99	10	$2.99	$42.89
6	Tamales: Chicken Tinga	$2.29	20	$3.44	$49.24
7	Tamales: Vegetable	$2.29	30	$5.15	$73.85
8	Arepas: Carnitas	$2.89	10	$2.17	$31.07
9	Arepas: Queso Blanco	$2.49	20	$3.74	$53.54
10	Empanadas: Apple Cinnamon	$3.19	40	$9.57	$137.17
11	Beverages: Horchata	$1.89	25	$3.54	$50.79
12	Beverages: Lemonade	$1.89	35	$4.96	$71.11
13	Beverages: Tamarindo	$1.89	10	$1.42	$20.32
14				TOTAL	$578.19
15					

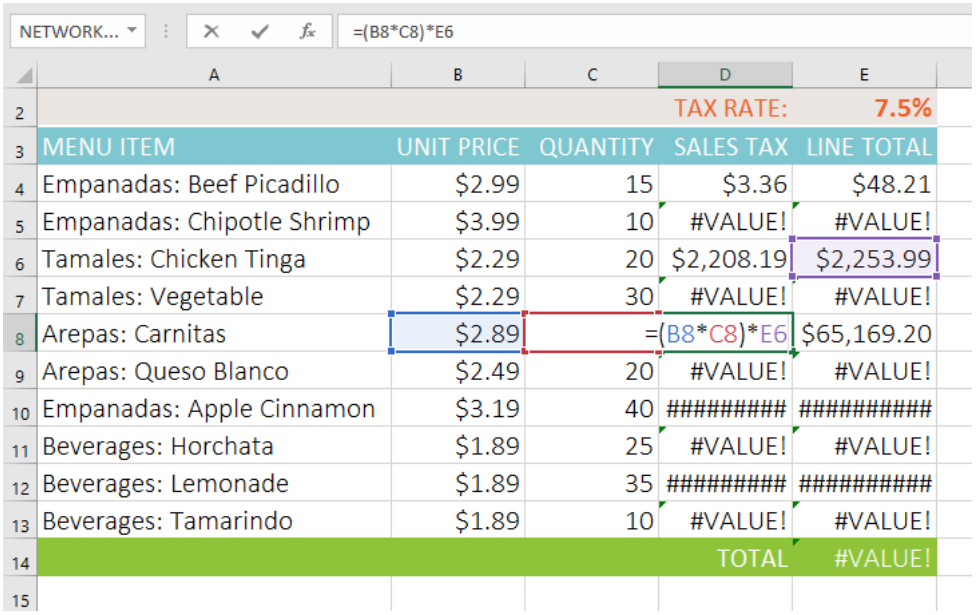
You can double-click the **filled cells** to check their formulas for accuracy. The absolute reference should be the same for each cell, while the other references are relative to the cell's row.



NETWORK... | =(B8*C8)*E2

	A	B	C	D	E
2				TAX RATE:	7.5%
3	MENU ITEM	UNIT PRICE	QUANTITY	SALES TAX	LINE TOTAL
4	Empanadas: Beef Picadillo	$2.99	15	$3.36	$48.21
5	Empanadas: Chipotle Shrimp	$3.99	10	$2.99	$42.89
6	Tamales: Chicken Tinga	$2.29	20	$3.44	$49.24
7	Tamales: Vegetable	$2.29	30	$5.15	$73.85
8	Arepas: Carnitas	$2.89	=(B8*C8)*E2		$31.07
9	Arepas: Queso Blanco	$2.49	20	$3.74	$53.54
10	Empanadas: Apple Cinnamon	$3.19	40	$9.57	$137.17
11	Beverages: Horchata	$1.89	25	$3.54	$50.79
12	Beverages: Lemonade	$1.89	35	$4.96	$71.11
13	Beverages: Tamarindo	$1.89	10	$1.42	$20.32
14				TOTAL	$578.19
15					

Be sure to include the **dollar sign ($)** whenever you're making an absolute reference across multiple cells. The dollar signs were omitted in the example below. This caused Excel to interpret it as a **relative reference**, producing an incorrect result when copied to other cells.



NETWORK... | =(B8*C8)*E6

	A	B	C	D	E
2				TAX RATE:	7.5%
3	MENU ITEM	UNIT PRICE	QUANTITY	SALES TAX	LINE TOTAL
4	Empanadas: Beef Picadillo	$2.99	15	$3.36	$48.21
5	Empanadas: Chipotle Shrimp	$3.99	10	#VALUE!	#VALUE!
6	Tamales: Chicken Tinga	$2.29	20	$2,208.19	$2,253.99
7	Tamales: Vegetable	$2.29	30	#VALUE!	#VALUE!
8	Arepas: Carnitas	$2.89	=(B8*C8)*E6		$65,169.20
9	Arepas: Queso Blanco	$2.49	20	#VALUE!	#VALUE!
10	Empanadas: Apple Cinnamon	$3.19	40	##########	##########
11	Beverages: Horchata	$1.89	25	#VALUE!	#VALUE!
12	Beverages: Lemonade	$1.89	35	##########	##########
13	Beverages: Tamarindo	$1.89	10	#VALUE!	#VALUE!
14				TOTAL	#VALUE!
15					

Q14. a) What tools are available to customize our PowerPoint presentation?

Answer: Here are some tools that can help you customize your PowerPoint presentation:

- Templates and themes
- Slide layouts
- Fonts
- Color themes
- Icons
- Shapes
- Stock photos
    - Charts and graphs

Q14 b) Write the steps for the following action for creation of power point presentation

 Open a Blank presentation

Answer: **Create a presentation**

1. Open PowerPoint.
2. In the left pane, select **New**.
3. Select an option:
    - To create a presentation from scratch, select **Blank Presentation**.
    - To use a prepared design, select one of the templates.
    - To see tips for using PowerPoint, select **Take a Tour**, and then select **Create**, .

 Save the presentation as Lab1.pptx

Answer: - **Save your presentation**

- Click **FILE** > **Save**, pick or browse to a folder, type a name for your presentation in the **File name** box, and click **Save**.
- Save your work as you go. Hit Ctrl+S often

 Add a Title to the first slide: the name of your college

Answer: Click Home > Layout. Select Title Slide for a standalone title page or select Title and Content for a slide that contains a title and a full slide text box.

 Add a New Slide which has a Title and Content

Answer: Home Tab: Click the "New Slide" dropdown arrow on the Home tab.

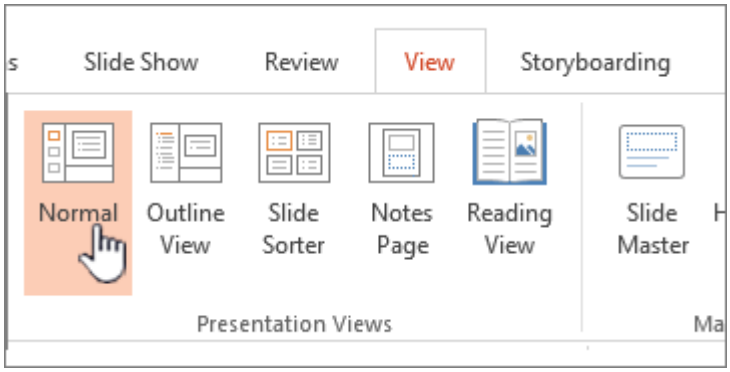
1. Layout Selection: Choose "Title and Content" layout from the gallery.
2. Adding Title: Click inside the "Click to add title" placeholder and type your title.
3. Adding Content: Click inside the larger text box below and add your content (text, bullet points, etc.).

Q15. Write steps for creation of a set of PowerPoint slides that demonstrates your skill to use

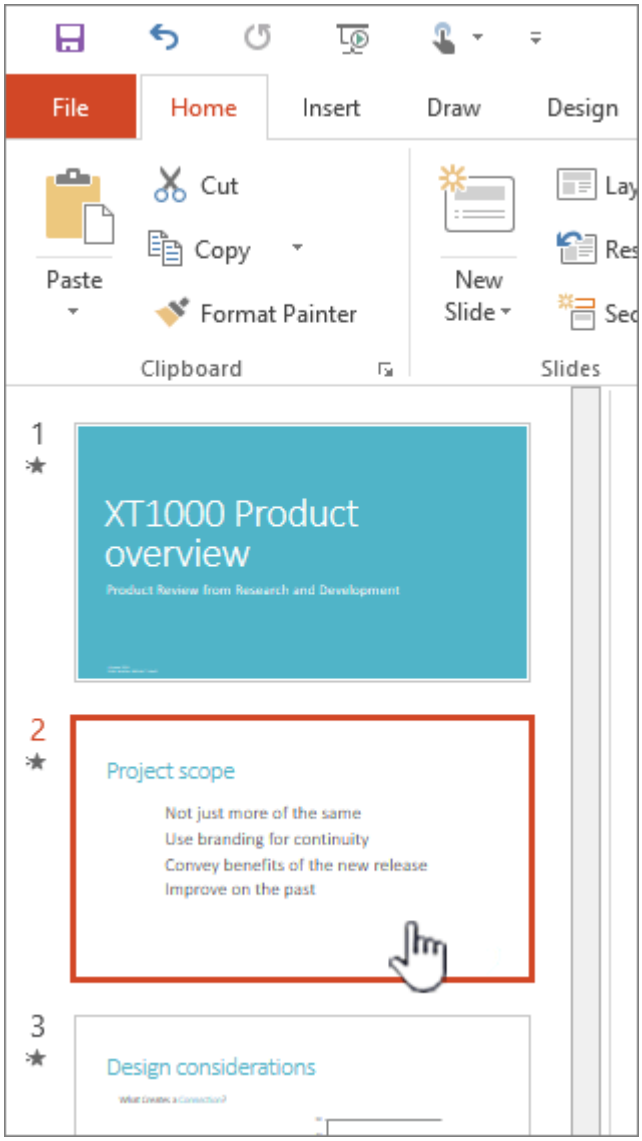
the tools of PowerPoint. It should include the following things

 Title slide &bullet list

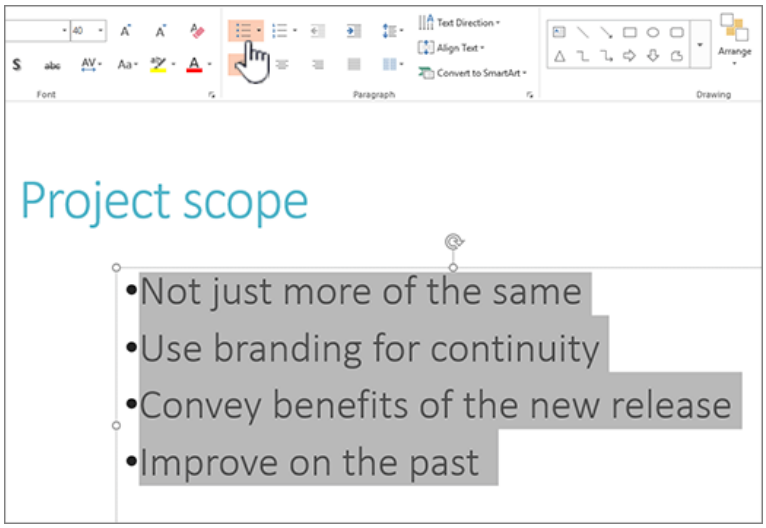
Answer: On the **View** tab, in the **Presentation Views** group, click **Normal**.



1. On the left side of the PowerPoint window, click a slide thumbnail that you want to add bulleted or numbered text to.



2. On the slide, select the lines of text in a text placeholder or table that you want to add bullets or numbering to.
3. On the **Home** tab, in the **Paragraph** group, click **Bullets** or **Numbering**.



 Inserting Excel Sheet

Answer: In Excel, click and drag to highlight the cells you want to copy.

1. Right-click the copied cells and select **Copy**.
2. In your PowerPoint presentation, right-click and select the **Paste Options** you want:
    - **Use Destination Styles** – Choose to edit your copied cells like a PowerPoint table, but with PowerPoint's color scheme and fonts.
    - **Keep Source Formatting** – Choose to keep your table editable in PowerPoint while maintaining the same source formatting from Excel.
    - **Embed** – Choose to keep a copy of your table in PowerPoint in case you want to edit the data, which will open in Excel.

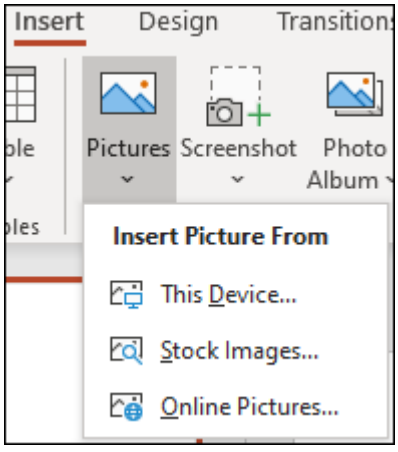
      Note: If you're working with a large Excel file, it'll inflate your PowerPoint presentation to a big size. You may also unintentionally be giving more access to your Excel file than you intend to.

    - **Picture** – Choose to paste your table as a picture to get the same benefits as embedding except you can format your cells like a picture and add effects to it. You won't be able to edit data once it's been pasted though.
    - **Keep Text Only** – Choose to paste your table as straight text and to do all formatting in PowerPoint.
3. If you pasted as a picture, on the **Picture Tools Format** tab, select the quick picture style you want to use. Adjust the table to your liking.

 Clip art and Text

Answer: Select the place in the slide where you want to insert the picture.

1. On the **Insert** tab, in the **Images** group, select **Pictures** and then select **This Device**.



2. In the dialog box that opens, browse to the picture that you want to insert, select that picture, and then select **Insert**.

 Slide show effects

Answer: **Add animations and effects**

1. Select the object or text you want to animate.
2. Select Animations and choose an animation.
3. Select Effect Options and choose an effect.

Part -2

Q16. What is the difference between Machine Language and High Level Language?

Answer: Both **High level language** and **low level language** are the programming languages's types. The main difference between **high level language** and **low level language** is that, Programmers can easily understand or interpret or compile the high level language in comparison of machine. On the other hand, Machine can easily understand the low level language in comparison of human beings. Examples of high level languages are C, C++, Java, Python, etc. Let's see the difference between high level and low level languages:

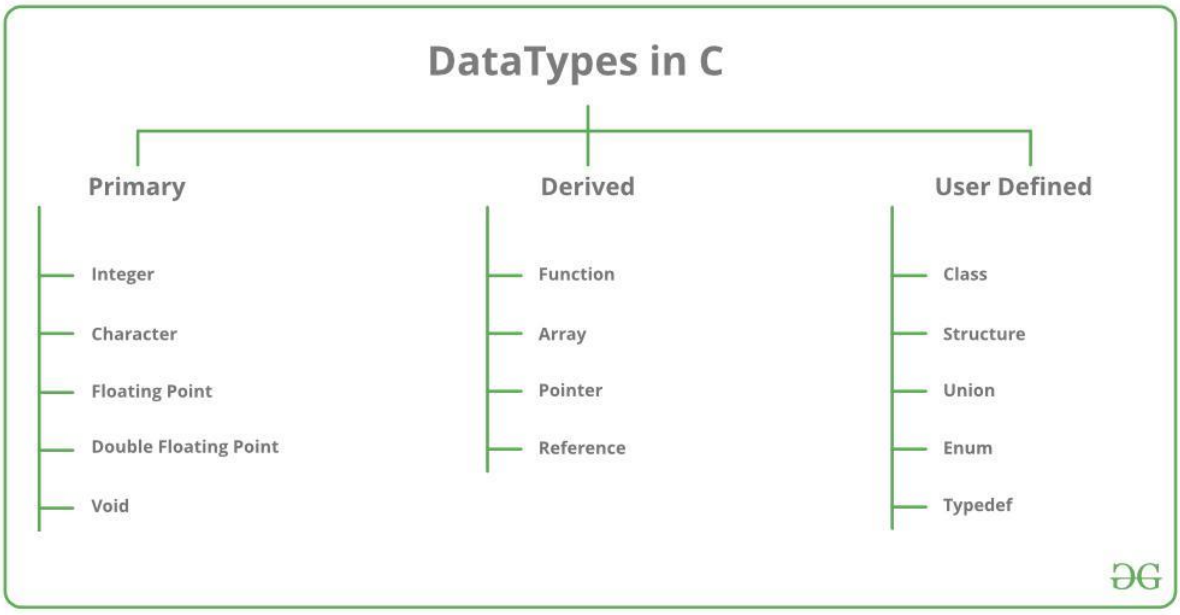
1.	**It is programmer friendly language.**	**It is a machine friendly language.**
2.	High level language is less memory efficient.	Low level language is high memory efficient.
3.	It is easy to understand.	It is tough to understand.
4.	Debugging is easy.	Debugging is complex comparatively.
5.	It is simple to maintain.	It is complex to maintain comparatively.
6.	It is portable.	It is non-portable.
7.	It can run on any platform.	It is machine-dependent.
8.	It needs compiler or interpreter for translation.	It needs assembler for translation.

1.	**It is programmer friendly language.**	**It is a machine friendly language.**
9.	It is used widely for programming.	It is not commonly used now-a-days in programming.

Q17. Discuss about different data types of C programming Language.

Answer: Each variable in C has an associated data type. It specifies the type of data that the variable can store like integer, character, floating, double, etc. Each data type requires different amounts of memory and has some specific operations which can be performed over it. The data type is a collection of data with values having fixed values, meaning as well as its characteristics.
The data types in C can be classified as follows:

Types	Description
Primitive Data Types	Primitive data types are the most basic data types that are used for representing simple values such as integers, float, characters, etc.
User Defined Data Types	The user-defined data types are defined by the user himself.
Derived Types	The data types that are derived from the primitive or built-in datatypes are referred to as Derived Data Types.



Data Type	Size (bytes)	Range	Format Specifier
short int	2	-32,768 to 32,767	%hd
unsigned short int	2	0 to 65,535	%hu
unsigned int	4	0 to 4,294,967,295	%u
int	4	-2,147,483,648 to 2,147,483,647	%d
long int	4	-2,147,483,648 to 2,147,483,647	%ld
unsigned long int	4	0 to 4,294,967,295	%lu
long long int	8	-(2^63) to (2^63)-1	%lld
unsigned long long int	8	0 to 18,446,744,073,709,551,615	%llu
signed char	1	-128 to 127	%c
unsigned char	1	0 to 255	%c
float	4	1.2E-38 to 3.4E+38	%f
double	8	1.7E-308 to 1.7E+308	%lf
long double	16	3.4E-4932 to 1.1E+4932	%Lf

Q18. Find the output of the following expressions

X=20/5*2+30-5 b) Y=30 – (40/10+6) +10 c) Z= 40*2/10-2+10

Answer:-

Q19. Describe the syntax of the following statements

a) If – else statement b) for loop c) while loop d) do-while loop

Answer: If the code inside parenthesis of the if statement is true, everything within the curly braces is executed. In this case, true evaluates to true, so the code runs the printf function.

if..else statements

In an if...else statement, if the code in the parenthesis of the if statement is true, the code inside its brackets is executed. But if the statement inside the parenthesis is false, all the code within the else statement's brackets is executed instead.

Of course, the example above isn't very useful in this case because true always evaluates to true. Here's another that's a bit more practical:

```
#include <stdio.h>


int main(void) {
   int n = 2;


   if(n == 3) { // comparing n with 3
      printf("Statement is True!\n");
   }
   else { // if the first condition is not true, come to this block of code
      printf("Statement is False!\n");
   }


   return 0;
}
```

Output:

Statement is False!

There are a few important differences here. First, stdbool.h hasn't been included. That's okay because true and false aren't being used like in the first example. In C, like in other programming languages, you can use statements that evaluate to true or false rather than using the boolean values true or false directly.

Also notice the condition in the parenthesis of the if statement: n == 3. This condition compares n and the number 3. == is the comparison operator, and is one of several comparison operations in C.

For loop

Answer for(Expression 1; Expression 2; Expression 3){ //code to be executed. }

While loop

Answer: While Loop in C

The while loop in C is used to evaluate a test condition and iterate over the loop body until the condition returns True. The loop ends when the condition returns False.

This loop is also known as a pre-tested loop because it is commonly used when the number of iterations is unknown to the user ahead of time.

While Loop Syntax in C

Here's the syntax for the while loop in C

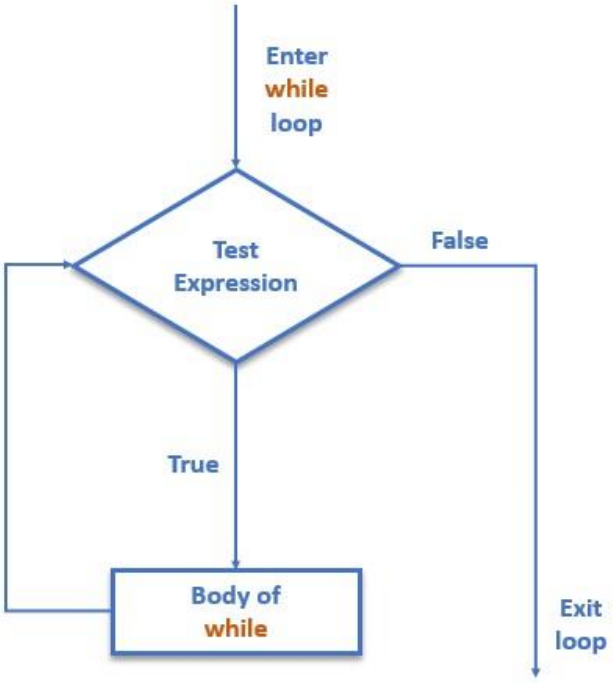
```
while (condition) {
   // Code to execute as long as the condition is true
}
```

Here,

- **while:** This is the keyword that begins the while loop.
- **condition:** This is a Boolean expression that is evaluated before each iteration of the loop. If the condition is true, the loop continues; if it is false, the loop ends.
- The code inside the curly braces **{}** is the body of the loop. This code is executed repeatedly as long as the condition remains true.

To begin with, the while loop in C checks the test condition and executes the body of the loop when the condition is True. This means that the condition is evaluated iteratively. The loop is active **while** the condition is true. This procedure is repeated until the condition returns False. The loop is terminated as soon as this occurs.

Take a look at the while loop flowchart below



While Loop Implementation Example in C

Example 1: Take a look at the C program that calculates the sum of n-natural numbers

```
#include  <stdio.h>

int main() {
   int num, i, sum = 0;

   printf("Enter a positive integer: ");
   scanf("%d", &num);

   i = 1;

   while (i  <= num) {
      sum = sum + i;
      i++;
   }

   printf("Sum: %d", sum);
```

```
    return 0;
}
```

Do-while loop

Answer The **do…while in C** is a loop statement used to repeat some part of the code till the given condition is fulfilled. It is a form of an **exit-controlled or post-tested loop** where the test condition is checked after executing the body of the loop. Due to this, the statements in the do…while loop will always be executed at least once no matter what the condition is.

Syntax of do…while Loop in C

```
do {

   // body of do-while loop

} while (condition);
```

How to Use do…while Loop in C

The following example demonstrates the use of do…while loop in C programming language.

- C

```
// C Program to demonstrate the use of do...while loop

#include <stdio.h>

int main()

{

    // loop variable declaration and initialization

    int i = 0;

    // do while loop

    do {

        printf("Geeks\n");

        i++;

    } while (i < 3);

    return 0;

}
```

Output

```
Geeks
Geeks
Geeks
```

Q20. Find the output of the following program segments

a) b) c)

```
#include <stdio.h>
int main()
{
int i;
for (i=1; i<2; i++)
{
printf( "IMS Ghaziabad\n");
}
}
```

```
#include <stdio.h>
int main()
{
int i = 1;
while ( i <= 2 )
{
printf( "IMS Ghaziabad\n");
i = i + 1;
}
}
```

```
#include <stdio.h>
void main()
```

```
{
int a = 10, b=100;
if( a > b )
printf( "Largest number is %d\n”, a);
else
printf( "Largest number is %d\n”,
```