

CERTIFICATE IN COMPUTER
APPLICATION(CCA)

CCA -101 ASSIGNMENT

NAME :- MD MAHFUZZ ALAM

FATHER'S NAME :- MD ~~MAH~~R MANZUOR ALAM

ADDRESS :- AT+PO- CHAKBAHAUDDIN

D.O.B :- 16/12/1997

EMAIL ID :- Mdmm260071@gmail.com

CONTACT NO.: - 8252887988

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Md Mahfuz Alam
SIGNATURE :-

Q1 What are the Four fundamental parts of computer? Explain it With the help of diagram.

Ans → The Four fundamental parts of computer :-

- (i) Input device
- (ii) output device
- (iii) CPU (central processing unit)
- (iv) Memory unit

(i) Input device :- Computer systems use many device for input purpose. Input device include the mouse, Inputpen, touch screen and microphone. Regardless of the type of device used all are components for interpretation and communication between people and computer system.

(ii) output device :- output device is used to show the result of the instructions Example :- Monitor, printer, Headphone, etc.

(iii) CPU :- It is the brain of the results of the computer. Without this unit computer unable to process.

(iv) Memory unit :- A memory unit is the collection of storage units or devices together. The memory unit stores the binary information in the form of bits.

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

Ans → Based on size and capacity, computers are classified as follows :-

- (i) Super computers
- (ii) Mainframe computers
- (iii) Mini computers
- (iv) Micro computers

(i) Super computers :- Super computers are the most powerful and physically the largest by size. These are systems designed to process huge amounts of data and the fastest super computers can perform over one trillion calculations in a second. Super computers have thousands of processors, because of their extraordinary speed, accuracy and processing power super computers are well suited for solving highly complex problems and performing tasks that demand huge amounts of calculations.

(ii) Mainframe computers :- Mainframe computers are very large of ten filling an entire room and can process thousands of millions of instructions per second. In a mainframe environment, users connect to the mainframe through the many terminals wired to the mainframe are capable of supporting hundreds to thousands of users simultaneously, some of the functions performed by a

mainframe include: Flight scheduling, reservation and ticketing for one airline etc.

(iii) Mini computers :- Mini computers are much smaller than mainframe computers. These computers are also less expensive. Sometimes referred to as midrange server or midrange computer. They are typically larger, more powerful and more expensive than desktop computers. Midrange computers are usually used by small and medium sized business as their servers. Users connect to the server through a network by using desktop computers.

(iv) Micro computers :- Micro computers are the most frequently used type of computer, also known as personal computer (PC). A micro computer is a small computer system designed to be used by one person and at a time.

Q. 3 What is the meaning of computer generation? How many computer generations are defined? What technologies were/are used?

Ans → The meaning of computer generation. Each generation is characterized by dramatic improvements over the previous generations in the technology used to build computers in terms of the internal organization of computer and programming languages.

Computer generations are defined in five types of generations

- (i) First Generation
- (ii) Second Generation
- (iii) Third Generation
- (iv) Fourth Generation
- (v) Fifth Generation

There are many technologies used :-

(i) First Generation:- vacuum tubes (1940-1956):- The first computer systems used vacuum tubes for circuitry and magnetic drums for memory and were of ten enormous, taking up entire rooms. These computers were very expensive to operate and in addition to using a great deal of electricity the first computer generated a lot of heat which was often the cause of malfunctions. First Generation computers relied on machine language, the lowest level programming language understood by computers to perform operations, and they could only solve one problem at a time. It would take operators problem days or even weeks to set-up a new problem. Input was based on punched cards and paper tape, and output was displayed on printouts. The UNIVAC and ENIAC computers are examples of first generation computing devices. The UNIVAC was the first commercial computer delivered to a business client the U.S. Census Bureau in 1951.

(ii) Second Generation :- Transistor (1956-1969) :- The world would see transistor replace vacuum tubes in the second generation of computers. The transistor was invented at Bell Labs in 1947 but did not see widespread use in computers until the late 1950s. The transistor was far superior to the vacuum tube allowing computers to become smaller, faster, cheaper, more energy-efficient and more reliable than their first generation predecessors. Though the transistor still generated a great deal of heat that subjected the computer to damage, it was a vast improvement over the vacuum tube. Second generation computers still relied on punched cards for input and printouts for output. Second generation computers moved from cryptic binary machine language to symbolic, or assembly language.

(iii) Third Generation :- Integrated Circuits (1964-1971) :- The development of the integrated circuit was the hallmark of the third generation of computer. Transistors were miniaturized and placed on silicon chips called semiconductors, which drastically increased the speed and efficiency of computers. Instead of punched cards and printouts, users interacted with third generation computer through keyboards and monitors and interfaced with an operating system which allowed the device to run many different applications at one time with a central program that monitored the memory. Computers for the first time became accessible to a mass audience because they were small.

and cheaper than their predecessors.

(iv) Fourth Generation:- Microprocessors (1971-Present):

The micro processors brought the fourth generation of computers, as thousands of integrated circuits were built onto a single silicon chip. What in the first generation filled an entire room could now fit in the palm of the hand. The Intel 4004 chip developed in 1971 located all the components of the computer from the unit and memory to input/output controls on a single chip.

In 1981 IBM introduced its first computer for the home users, and in 1978 Apple introduced the Macintosh. Microprocessor also moved out of the realm of life as more and more into many areas of began to use micro processors.

As these small computers became more powerful, they could be linked together to form networks which eventually led to the development of the Internet. Fourth generation computers also saw the development of GUIs, the mouse and handheld devices.

(v) Fifth Generation:- Artificial Intelligence (Present and Beyond): - Fifth generation computing devices, based on artificial intelligence are still in development, though there are some applications, such as voice recognition, that are being used today. The use of parallel processing and superconductors is helping to make artificial intelligence a

Reality Quantum computation and molecular and nanotechnology will radically change the face of computers in years to come. The goal of fifth generation computing is to develop devices that respond to natural language input are capable of learning and self organization.

Q4 Differentiate between volatile and non-volatile memories.

Ans →

Volatile	Non-volatile
(i) volatile memory is the type of memory in which data is lost as it powered off.	(i) Non-volatile memory is the type of memory in which data remains stored even if it is powered off.
(ii) contents of volatile memory is stored temporarily	(ii) contents of non-volatile memory is stored permanently
(iii) It is faster than non-volatile memory	(iii) It is slower than volatile memory
(iv) RAM is an example of volatile memory	(iv) ROM is an example of non-volatile memory
(v) In volatile memory, data can be easily transferred in comparison to non-volatile memory	(v) In non-volatile memory, data can not be easily transferred in comparison to volatile memory
(vi) In volatile memory generally has read and write	(vi) In non-volatile memory process can only read
(vii) volatile memory generally has less storage capacity	(vii) Non-volatile memory generally has more storage capacity than volatile memory
(viii) volatile memory is more costly per unit size	(viii) Non-volatile memory is less costly per unit size
(ix) volatile memory chips are generally kept on the memory slot	(ix) Non-volatile memory chips are embedded on the motherboard

Q5: Distinguish among System Software application software and open source software on the basis of their features.

Ans → System software	Application Software	open-source software
It is a type of software that is designed to run a computer's hardware and application programs. Software like operating System Compilers editors and device etc come under this category	It is software create for a specific purpose, used by can be application or simply an app. Examples: word processor, accounting application, a web browser, an email client, media player etc	It is a type of computer software in which source code is released under a licence in which the copyright holder grants users a license in which right to study the software to anyone and for any purpose

Q 6.(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.

Ans → opening MS-Word :-

- click the start icon
- Then point to all program
- Then click Microsoft office and
- then click Microsoft word

- * Now, create a file in Microsoft Word
- click the Microsoft office button / File tab.
- select New then new document dialog box appears.
- select Blank document It will be highlighted by default.
- A new blank document appears in the word - window
- Now you can create document about yourself

Document - 1

you know yourself better than anyone else but writing about yourself can still be tough! When applying for scholarships or to college, essay prompts can feel so general that they leave us stumped.

* Now To Save document using save as command.

- click the MS office button / file tab.
- select save as - Word document.
- select the location where you want to save the document using the drop-down menu.
- Enter name for the document "yourself"
- click the save button.

Q 6.(b) Write Steps regarding followings

→ To change the font style :-

Ans → • select the text you want to modify.

- click on font style box on the Home tab the font style drop-down menu appears.
- Move your cursor over the various font style.
- Left-click the font style you want to use.
- Then font style will change in the document.

Q 7: create a file in MS-Word for the following document and save it with file name 'ms-Word'. Describe all steps involved in it MS-Word.

MS Word is a widely used commercial word processor developed by Microsoft.

MS-Word is application software, which is capable of

- creating
- editing
- saving
- printing any type of document.

Ans → opening MS Word.

- click the start icon
- Then point to all program.
- Then click Microsoft office and.
- Then click Microsoft Word.

* Now, create a file in MS Word

- click the Microsoft office button/file tab,
- select New, then new document dialog box appears
- select blank document, it will be highlighted by default.
- a new blank document appears in the Word window
- Now you can create document 'MS-Word'.

Document - 1

MS Word

MS Word is a widely used commercial word processor developed by Microsoft.

MS Word is application software, which is capable of

- creating
- editing
- saving

- printing any type of document
- Finally save document.

* Now To save document using save as command.

- click the MS office button / file tab,
- select Save as - Word document.
- select the location where you want to save the document using the drop-down menu.
- Enter name for the document 'MS Word'.
- click 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 Equations

$$x_2 + y_5 = 30$$

$$z^3 + a^4 = 50$$

$$a_2 + b^8 = x_2 + y^8$$

Ans: Opening MS Word.

- click the Start icon.
- Then point to all programs.
- Then click Microsoft office and
- Then click Microsoft Word

* Now create a file in Microsoft Word.

- click the Microsoft office button / file tab.
- select New, then new document dialog box appears.
- Select blank document, It will be highlighted by default.
- A new blank document appears in the Word window
- Now you can create document inserting equations.

Document - 1

$$X_2 + Y_5 = 30$$

$$2^3 + 8^4 = 50$$

$$A_2 + B^8 = X_2 + Y^8$$

finally save document.

*

Now to save document using save as command.

- click the MS office button/file tab.
- select Save as - Word document.
- select the location where you want to save the document using the drop-down menu.
- Enter name for the document 'equations'.
- click the save button.

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

- select the text you want to convert.
- select the Insert tab.
- click on Table command. A dialog box appears.
- here set number of columns.
- click on OK. finally selected text convert in table.



- | | |
|--|--|
| select the text you want to convert | select the insert tab. |
| click on Table command A dialog box appears. | click on convert text to table |
| here set number of columns. | a new dialog box appears. |
| | click on OK finally selected text convert in table |

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

Ans → opening MS Word :-

- click the start icon,
- then point to all program,
- then click Microsoft office and,
- then click Microsoft Word.

* Now create a File in MS Word :-

- click the Microsoft office button/file tab.
- select New, then new Document dialog box appears.
- select blank document it will be highlight by default
- A new blank document appear in the Word Window.
- Now you can create document by inserting text.

* Now to insert a table :-

- place your insertion point in the document, where you want to insert a table.
- select the insert tab.
- click the table command.
- drag your mouse over the diagram squares to select the number of columns and appears in the table.
- Left-click your mouse and the table appears in the document.
- Enter text into the table.

Q11: Create a following Worksheet in MS-Excel and save it with name 'book'.

Ans → Starting a Excel : —

- click on the start button on the taskbar at the bottom left corner of the screen.
- Highlighted the all programs item The program menu will open
- select Microsoft office from the list of program.
- click on Microsoft Excel.

* Now to create a new blank worksheet : —

- left-click the MS office button/file tab.
- select New, the new worksheet dialog box appears and blank worksheet is highlighted by default.
- click on this
- A new blank worksheet appears in the window

* Now to save Worksheet using save as command : —

- click the MS office button/file tab.
- select save as.
- select the location where you want to save
- Enter a name for the worksheet.
- click the save button.

Q12: calculate the following things of a range (C2:C11) of data in the worksheet created in question no. 10.

Ans-1 the sum of the marks using Autosum in a range of cells (C2:C11)

$$= \text{SUM}(\text{cell range})$$

$$= \text{SUM}(C2:C11)$$

$$= 654$$

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

$$= \text{Average}(\text{cell range})$$

$$= \text{Average}(C2:C11)$$

$$= 65.4$$

$\rightarrow$ Highest marks in a range of cells (C2:C11)

$$= \text{Max}(\text{cell range})$$

$$= \text{Max}(C2:C11)$$

$$= 90$$

$\rightarrow$ Minimum marks in a range of cells (C2:C11)

$$= \text{Min}(\text{cell range})$$

$$= \text{Min}(C2:C11)$$

$$= 40$$

Ans → opening MS Word :-

- Click the Start icon.
- Then point to all program.
- Then click Microsoft office and.
- Then click Microsoft Word.

* Now create a file in MS Word :-

- Click the Microsoft office button/File tab.
- Select New then new document dialog box appears
- Select blank document. It will be highlight by default
- A new blank document appears in the Word window
- Now you can create document by inserting text.
- Finally save document.

* Now to convert existing text to a table :-

- Select the text you want to convert.
- Select the Insert tab.
- Click on Table command. A dialog box appears.
- Click on convert text to table a new dialog box appears
- Here set number of columns,
- Click on OK.
- Finally selected text convert in a table.

* Now. To save document using save as commands:-

- Click the ms office button/File tab
- Select save as- Word document.
- Select the location where you want to save the document.
- Enter name for the document text to table
- Click the save button.

STP has the similar quality factor and uses the same connectors as UTP but the shield must be connected to the ground.

Unshielded twisted pair (UTP):- UTP cable is the most prevalent type of communication medium in use today. Its frequency range is suitable for transmitting both data and voice. These are most commonly used in telephone systems. A twisted pair consists of two insulated conductors (usually appear) in a twisted configuration. Color bands are used in plastic insulation for identification. In addition, colors also identify the specific conductors in a cable and to indicate which wires belong in a cable pair and how they relate to other pairs in a larger bundle. The two wires are twisted in the twisted pair cable, which signifies that it reduces the noise generated by the external source. The noise here we are talking about is generated when two wires are parallel, which causes an increase in voltage level in the wire closest to the source and also uneven load and damaged signal.

(b) $y = 30 - (40/10 + 6) + 10$: $\rightarrow$ performe the division operation is parenthere first : $- 40/10 = 4$

* formula becomes $(30 - (4 + 6) + 10)$: $\rightarrow$ Nex. performe the addition in parenthere first : $- 4 + 6 = 10$

* formula becomes $30 - 10 + 10$: $\rightarrow$ Next the addition takes place before the subtraction : $- 30 + 10 = 40$

* formula becomes $40 - 10$: $\rightarrow$ Finally $40 - 10 = 30$

The Final answer is 30.

(c) $z = 40 * 2 / 10 - 2 + 10$: $\rightarrow$ The operation is division first $40 * 2 / 10 = 80 / 10 = 8$

* formula becomes $(8 - 2 + 10)$: $\rightarrow$ Next the addition takes place before the subtraction : $- 8 + 10 = 18$

* formula becomes $(18 - 2)$: $\rightarrow$ Finally $18 - 2 = 16$

The final answer is 16

Q13: (a) Describe various steps involved in the following

→ To modify column width of a Worksheet :-

- Ans →
- position the cursor over the column line in the column heading
 - And a double arrow will appear.
 - Left-click the mouse then drag the cursor to the right to increase the column width or to the left to decrease the column width.
 - Release the mouse button.

→ To modify the row height of a Worksheet :-

- position the cursor over the row line you want to modify. and a double arrow will appear.
- left-click the mouse. then drag the cursor upward to decrease the row height or downward to increase the row height.
- Release the mouse button.

→ To delete rows and columns of a Worksheet :-

- Select the row or column you want to delete
- click tab delete command in the cells tab group on the home tab.
- selected column or deleted.

(Q134) Describe following terms in the worksheet :-

→ Absolute reference and relative reference in formula:-

- Ans →
- Relative reference: cell reference in formula automatically adjust to new location when the formula is posted into different cells, this is called a relative reference.
 - Sometimes when you copy and past a formula you don't want one or more cell reference to change.
 - An absolute reference solve this problems, Absolute Reference: cell reference in a formula always refer to the same cell or cell range if a formula is copied to a different location, the absolute reference remains the same.
 - An absolute reference is designated in the formula by the addition of dollar sign (\$).

→ Cell address :-

- Each rectangle in the worksheet is called a cell. Each cell has a name, or a cell address based on the column and row where it is located. In below diagram name of selected cell is C3 because column head is C and row head is 3.

Q.14(a) What tools are available to customize our power point presentation?

Ans: Many tools are available our power point presentation:-

1. Home:- The home tab holds the cut and paste features font and paragraph options, and what you need to add organize slides.

2. Insert:- click Insert to add something to a slide this includes pictures, shapes, charts, link, text boxes, video and more.

3. Design:- on the Design tab, you can add a theme or color scheme, or format the slide background,

4. Transitions:- set up how your slides change from one to the next on the transitions tab find a gallery of the possible transitions in the transitions to this slide group - click more at the slide of the gallery to see all of them.

5. Animations:- use the animation tab to choreograph the movement of things on your slide Note that you can see possible animations in the gallery in the animation group, and see more of theme by clicking more.

6. Slide Show : - on the Slide Show tab set up the way that you want to show your presentation to others.

7. Review : - The Review tab lets you add comments, run spell-check, or compare one presentation with another (such as an earlier version)

8. View : - views allows you to look at your presentation in different ways, depending on where you are in the creation or delivery process.

9. File : - At one end of the ribbon is the file tab which you use the behind the scenes stuff you do with a file such as opening, saving, sharing, exporting, printing and managing your presentation, click the file tab to open a new view called the Backstage.

Click from the list on the side to do what you want to do. For example, click print to find the options and setting for printing your presentation, click Back to return to the presentation that you were working on.

10. Tools tabs : - When you click some parts of your slides, such as pictures, shapes, SmartArt or text boxes you might see a colorful new tab appear.

In the example above, the Drawing Tools tab appears when you click a shape or text box when you click a picture the picture

- Then, click blank presentation, additional information on how slide can used
- then open the first slide.
- click the title bar,
- Type the name of my college "R.B. College Dalsingpur"

→ Type your first name and last name in the Subtitle section :-

- Select new on the left of tab to go to backstage view
- select new on the left of the window.
- Additional information on how the template can be used
- click on Blank presentation
- Then open the Subtitle section.
- Type the first name in subtitle "Mahfooz" and type the last name in the subtitle section "Alam".

→ Add a New slide which has a Title and content :-

- To insert a new slide that contains a "Title and content" slide layout click the "Home tab" in the ribbon
- Then click the new slide button in the slides button group
- To insert a new slide and choose the slide layout click the dropdown part of this button
- Doing this then shows a dropdown menu that displays the different slide layouts you can apply.
- Then click one of the slide layouts in the drop down menu to create a new slide with that layout.

tools tab appears other such tabs include SmartArt tools chart tools table tools and video tools these tabs disappear or change when you click something else in your presentation.

Q 14 (b) Write the steps for the following action for creation of power point presentation

Ans-~~B~~ open a Blank presentation:-

- (i)
 - click on start.
 - select MS office powerpoint option
 - double click on it Again
 - Select the file tab to go to Backstage view
 - Select New. on the left side of the window.
 - then, click Blank presentation

* Save the presentation as Lab1.pptx.

- click on the file tab to launch the Backstage view and select save,
- (i)
 - In the save as dialog, type in the file name and click "save",
 - The default file format is 'pptx' if you want to save the file with a different name choose one of the file types from the "save as type" drop down list,

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

- select the file tab to go to Back stage
- select new on the left side of the window.

→ To change the font size :-

- select the text you want to modify.
- click on font size box in the font group on the home tab. The font size drop-down menu appears.
- Move your cursor over the various font size.
- Left-click on font size you want to use.
- then it will change font size in your document.

→ To change the font color :-

- select the text you want to modify.
- click on the font color box on the tab. The font color menu appears.
- Move your cursor over the various font color.
- Left-click the font color you want to use.
- then font color will change in the document.

→ To highlight (in yellow) the line that reads "need to get IMS's address"

- click the text highlight color in font group on the home tab.
- various color will appear.
- Move your cursor over the various colors.
- click on yellow color.
- Then the line "need to get IMS's address" highlight color will change in the document.

→ To change the font size :-

- select the text you want to modify.
- click on font size box in the font group on the home tab. The font size drop-down menu appears.
- Move your cursor over the various font size.
- Left-click on font size you want to use.
- then it will change font size in your document.

→ To change the font color :-

- select the text you want to modify.
- click on the font color box on the tab. The font color menu appears.
- Move your cursor over the various font color.
- Left-click the font color you want to use.
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- Move your cursor over the various font size.
- Left-click on font size you want to use.
- Then it will change font size in your document.

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- Select the text you want to modify.
- click on the font color box on the tab. The font color menu appears.
- Move your cursor over the various font color.
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- click on yellow color.
- Then The line "need to get IMS's address" highlight color will change in the document.

Q15: Writes steps for creation of a set of power point slides that demonstrates your skill to use the tools of powerpoint, It should include the following things.

Ans→ Title slide and bullet list: —

- Start Microsoft powerpoint.
- open arbitrary existing powerpoint presentation.
- click the new slide button on the formatting toolbar

The slide layout task pane appears as shown in the above figure. The slide layout task pane lets you select from numerous layouts that determine what you numerous want to appear on the new slide we want to add a Bulleted List Slide.

- Click the Bulleted List layout as shown in the above figure A new slide appears after the current slide in your presentation as shown in the figure Notice there are two placeholder on this slide: one for the title of the slide and the other for the bulleted list To add text to a placeholder, all you have to do is click and type

- Click the title placeholder (Where it says: Click to Add Title) An insetion point (I) appears in the placeholder indicating that you can add text to the placeholder.

- Type some text Now let's add some text to the bulleted list placeholder.
- Click the bulleted list placeholder and type something and press <Enter>. power point adds another bulleted to the list When you press the <Enter>. Key.

- Repeat the following three times: type some text and press <Enter>.
- click the slide layout pane's close button. If you are not planning to use the slide layout pane again for a while, it is usually a good idea to close it so you can have extra viewing space for your presentation.

(→ Inserting Excel Sheet : —

- In powerpoint, on the Insert tab, click on top object.
- In the Insert object dialog box, select create from file.
- click on tab Browse, and in the Browse box, find the Excel Workbook with the data you want to insert and link to.
- Before you close the Insert object box, select link and click OK.

→ clip art and Text : —

- click in the slide where you want to insert a clip art file.
- on the Insert tab, in the Images group click on line pictures (In powerpoint 2007/2010, this option is called clip Art.)

- In the Insert pictures dialog box (clip Art task pane in power point 2007/2010), enter your search terms in the Bing.com field and press.
- your search results load in the task pane.
- Locate the clip art you want to insert in your slide and double-click on it or click the item and select, Insert,

→ Slide Show effects :-

- Notice that there is a separate area to left on the screen where you first slide is located.
- The First Way to add a slide is to right click the area under where your first slide is located and select, 'New slide'. A new slide will appear.

part - 2

Q 16: What is the difference between Machine Language and High Level Language ?

Ans →

Machine Language	High Level Language
(i) A computer programming language consisting of binary instructions which a computer can respond to directly.	(i) A high-level language is a programming language that enables development of program in a much more user friendly programming context.
(ii) Sometimes it is referred to as machine code or object code. Machine language is a collection of binary digits or bits that the computer reads.	(ii) High level language are grouped in two categories based on execution model compiled or interpreted language.
(iii) A computer cannot directly understand the programming language used to create computer programs, so the program code must be compiled. Example - 01001000, 01100101, 0110100 etc,	(iii) This language is a programming language with strong abstraction about the details of the computer in contrast to low level programming language (Assembly language). Example C, C++, Java.

Q17: Discuss about different data types of C programming language.

Ans → Data type of C :- Each variable in C has an associated data type. Each data type requires different amounts of memory and has some specific operations which can be performed over it. Let us briefly describe them one by one:

Following are the example of some very common data types used in C :-

- Char :- The most basic data type in C. It stores a single character and requires a single byte of memory in almost all compilers.
- Int :- As the name suggests, an int variable is used to store an integer.
- Float :- It is used to store decimal numbers (numbers with floating point value)
- Double :- It is used to store decimal numbers (numbers with floating point value but its range of values are high in comparison to float)

* Important Data type in C With range :-

(c) While loop :- Basic Syntan of While loop is as Follows :

```
While (condition)
Single statements;
```

```
OR,
While (condition)
{
block of Statements;
}
```

The above code can be represented in form of a flow diagram as shown above.

(d) do-While loop :- Basic Syntax of do-While loop is as follows :

```
do
{
Single Statement
OR
block of Statements
} While (condition);
```

This code can be represented in the form of a folow diagram as shown below.

Type	Keyword	value range which can be represented by this data type
Character	Char	-128 to 127 or 0 to 255
Number	Int	-32,768 to 32,767 or 2,147,483,648 to 2,147,483,647
Small Number	Short	-32,768 to 32,767
Long Number	Long	-2,147,483,648 to 2,147,483,647
Decimal Number	Float	1.2E-38 to 3.4E+38 till 6 decimal places

These data types are called primitive data type and we can use these data types to build more complex data types which are called user defined data types. For example a string will be a sequence of characters.

Q 18: Find the output of the following expressions

(a) $x = 20/5*2+30-5$ —→ The operation is division first:
 $20/5 = 4$

* formula becomes $(4*2+30-5)$ —→ Because the multiplication comes before the addition: $4*2 = 8$

* formula becomes $(8+30-5)$ —→ Next the addition takes place before the subtraction: $8+30 = 38$

* formula becomes $(38-5)$ —→ Finally $38-5 = 33$

The final answer is 33.

Q19: Describe the syntax of the following statements:-

(a) If-else statement :- If statement can be followed by an optional else block of statements, which executes when the Boolean expression is false.

Syntax :-
If (expression)
{
true Block of statements
}
else
{
else Block of statements;
}

(b) For loop :- For loop is similar to While, Basic syntax of for loop is as follows:

```
for (expression1; expression2; expression3)  
{  
Block of statements;  
}
```

In the above syntax:

expression1 - Initializes variables.

expression2 - conditional expression as long as this condition is true loop will keep executing.

expression3 - Expression 3 is the modifier which will increase or decrease the value of the variable.

Q 20: Find the output of the following program segments.

(a)	(b)	(c)
<pre>#include <stdio.h> int main() { int i; for (i=1; i<2; i++) { printf("IMS Ghaziabad") } }</pre>	<pre>#include <stdio.h> int main() { int i=1 while (i=2) { printf("IMS Ghaziabad") i=i+1; } }</pre>	<pre>#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", b); }</pre>

Ans →

(a)	(b)	(c)
<pre>#include <stdio.h> int main() { int i; for (i=1; i<2; i++) { printf("IMS Ghaziabad") } }</pre>	<pre>#include <stdio.h> int main() { int i=1 while (i<=2) { printf("IMS Ghaziabad") i=i+1; } }</pre>	<pre>#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", b); }</pre>
output: IMS Ghaziabad	output: IMS Ghaziabad IMS Ghaziabad	output: largest number is 100