Assignment

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Assignment → CCA-101 (Fundamentals of IT and Programming)

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CCA-101 - Fundamentals of IT & Programming

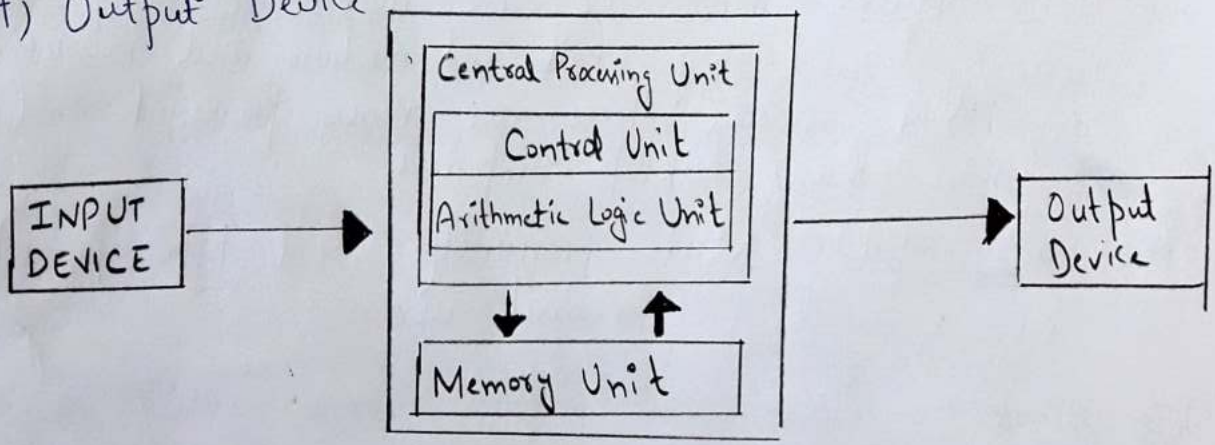
Assignment - 1

Q.1: What are the four fundamental parts of computer? Explain it with the help of a diagram.

Ans: Computer is a programmable electronic device designed for storing and processing data, based on set of instructions. It is a fast system used to accept, store, process and produce output results for the given data.

It has four fundamental parts, viz.,

1) Input Device.
2) Central Processing Unit (CPU)
3) Memory Unit.
4) Output Device



1) Input devices include mouse, keyboard, touchscreen, microphone etc. to put data into the computer programme for necessary processing.
2) CPU is the main component that processes all the input data and gives the required output on output devices.
3) Memory Unit stores the data in the form of bits.
4) Output device show the result of the instructions given to the system. It includes monitor, printer, speaker etc.

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

Ans: Based on the size and the capacity to process data, computers are classified as:

i) Super Computers:- These are the most powerful and are largest in size. Fastest processors that perform one trillion calculations per second are the characteristics of supercomputers. These solve complex calculations without any sort of problem.

ii) Mainframe Computers:-
These cover large areas due to their tremendous size. The mainframe computers supports thousands of users simultaneously to the mainframe through many terminals. Mainly used in booking, reservation, schedule of flights.

iii) Minicomputers:- These are the mid-range computers usually used by small and medium-sized businesses as their servers. These are more powerful and expensive than desktop computers.

iv) Microcomputers:- Most frequently used type of computer. It is used for personal use.

Q3: What is meaning of computer generation? How many computer generations are defined? What are the technology used.

Ans:- Evolution of computers is divided into generations. Five Generations of computers are briefly discussed below:-

i) First Generation:- (1940-1956)
These used vacuum tubes for circuits and magnetic drums for memory. These were enormous

in size taking entire rooms for space. These generated a lot of heat and were expensive. UNIVAC (Universal Automatic Computer) and ENIAC are examples of First Generation of computers.

ii) Second Generation (1956-1963)

These used transistors in place of vacuum tubes. Use of transistors made computers much cheaper, smaller and faster. Second generation computers moved from cryptic binary machine language to symbolic/assembly language.

iii) Third Generation (1964-1971)

Integrated Circuits manufactured on silicon chips called semi-conductors were the hallmark of third generation. Use of IC's drastically improved the efficiency of computers.

iv) Fourth Generation: (1971-present)

The technology used in 4th gen was microprocessors. Hundred of ICs were fabricated on single chip. In 1981 IBM introduced its first computer for home users. GUI's developed in fourth generation.

v) Fifth Generation:

It is the present and future of digital computers. The technology used is based on Artificial Intelligence

Q4) Differentiate between Volatile and Non-Volatile memory.

Ans: i) The read-write memory of a computer is volatile memory.

ii) It is also called primary memory.

iii) Volatile memory stores instructions and data

required for CPU.

iv) All the data in volatile memory is lost when system is turned off.
RAM [Random Access Memory] is example of volatile memory.

→ Non-Volatile Memory.

i) It stores information essential to operate computer like Operating-System (OS).
ii) It never loses data.
iii) Also called secondary memory.
Examples include Hard Disk Drives (HDD), SSD etc.

Q5) Distinguish among system software, application software and open source software.

Ans: → System Software: (OS)
It is used for operating computer hardware.
It is the interface between application software and system.
Low level languages are used to write system software.
Without system software, application software can't run.

→ Application Software:
It is the type of software that runs as per user request.
It is a specific purpose software.

→ Open Source Software:
These softwares makers grant users the right to use, study, change and distribute the software to anyone.
It's source code is open to all.
Example Wikipedia.

Q6 Create file in MS-word to insert a paragraph about yourself and save it with file name "yourself". Describe all steps involved. (5)

Ans:- i) Opened MS-Word from Microsoft Office Suite.
ii) Clicked 'new file' on the Home-tab or press Ctrl+N.
iii) Started writing about self in a paragraph like name, age, personal information etc.
iv) Open the ~~Home~~ File-tab and go to Save option or simply press Ctrl+S.
v) Rename the file in the dialogue box by 'yourself'.
vi) Click on 'Save' file. And the file gets saved.

Q7:- Create file in MS-Word for given document and save it with name 'ms_word'. Describe steps involved.

Ans:- i) First, open the Word application from app-list.
ii) Next click on New Blank Document under File section.
iii) Start writing in the steps below:
a) MS Word heading with large font.
b) Change the font size to small and font color to red to write:
'MS Word' (in red).
c) Again change font color to black and continue writing:
'is a widely used commercial'.
d) Now open the home-tab and click on 'U' for

underling 'word processor'.

→ Next continue with default font and write 'developed by Microsoft'.

→ Now, under the paragraph, click on bullets to introduce bullet points to write.

- creating, (Using blue font)
- editing, (black font)
- saving, and (using red font and strikethrough 'and' under font section)
- printing any type of document (Using Bold command by clicking Ctrl+B).

At last, click Ctrl+S and save with 'ms word' file name.

Q8: Equations

$X_2 + Y_5 = 30$

$Z^3 + Q^4 = 50$

$A_2 + B^8 = X_2 + Y^9$.

Ans: i) Open MS-Word from app list.

ii) Click on Blank Document.

iii) Write 'Equation' with underline command 'Ctrl+U'.

iv) $X_2 + Y_5$ can be put by writing 2 and 5 in subscript. Press (Ctrl+=)

v) $Z^3 + Q^4$ can also be written by using superscript tool in font section (denoted by X^2) or clicking (Ctrl+Shift++).

vi) The third equation can be written in similar manner using subscript and superscript combined.

vii) Save the file and rename it with equations.

Q9:- Create file in MS-Word that converts existing highlight text to table and save it with name 'text-to-table'.

Ans:- i) Open the MS-Word application.
ii) Create New Blank Document.
iii) Write the given text in highlighted format.
iv) Select the whole text by pressing Ctrl+A.
v) Select Insert tab and click on Table command.
vi) Now click 'Convert Text to Table.
vii) A dialogue box appears, set number of columns to 2.
viii) Click on 'OK' and save the displayed table with name 'text-to-table' by pressing Ctrl+S.

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

Ans:- To create a table:
i) Open MS-Word application and click on 'Blank Document'.
ii) Now on the tool bar, click on the Insert command, a drop down menu appears.
iii) Left click the mouse on the 'Table' font to add a table.
iv) Select Insert table to choose number of columns and rows as per requirement and click OK.
Thus, table is displayed on the word-document.

Q12:- Calculate the following things of a range (C2:C11) of data in the worksheet created in Q11.

i) Sum of marks using Autosum in C2:C11 is 599

ii) Average of marks in range C2:C11 is 65.4 marks.

iii) Highest marks in range C2:C11 is 90

iv) Minimum marks in range C2:C11 is 40

Q13:- Describe steps involved in following:-

→ To modify column width of worksheet.

Ans: i) Select all the cells or the cells required to be adjusted.

ii) In the toolbar, above 'Cells' section, click on 'Format'.

iii) In the options, select 'Column Width' and write the size desired. Press Enter.

→ To modify row height of worksheet.

i) Select the cells to be modified.

ii) Click on Format in toolbar and go to 'Row Height'.

iii) Enter the size of cell height required. Press Enter.

→ To delete rows and columns of worksheet.

i) In the Cells section in toolbar, press 'Delete' command

ii) Now, select the cells to be deleted and click Delete Cells.

iii) We can also ~~drop~~ delete the whole sheet with the dropdown menu option.

Q14) a) What are the tools available to customize our Powerpoint Presentation.

Ans: The tools to customize our presentations are:

i) Insert: To add picture, image etc.
ii) Design → To add design to the slide.
iii) Transitions → To display slides in different styles.
iv) Animations
v) Slideshow
vi) Review etc.

Q14

b) → Open a blank presentation.
→ Save it with name Lab1.pptx by pressing Ctol+S
→ Click on 'Click to add title' and write the College name.
→ Now click on 'Add subtitle' below and write your first and last name.
→ To add new slide, click on 'New Slide' command in Home menu.
→ A drop down menu appears to show different types of slide.
→ Press "Title and Content" to display new slide.

Q15:
Ans: Open powerpoint 'Blank Presentation', a 'Title Slide' opens by default.
Click on any section of the title to start writing
In Home tab, under Paragraph section, select 'Bullets' command to add a bullet list It can be added in 'Content Slide' or 'Sub-Title' section

→ To insert Excel sheet, select Insert tab. Now, select 'Table' command and in the dropdown menu, select 'Excel Spreadsheet'.

→ Clip Art and Text can also be added in Insert and Home tab.

→ Go to 'SlideShow' tab to play the presentation Here we can have effects for slideshow in 'Custom Slide Show'.

Part - 2

Qtb:- What is the difference between Machine Language and High Level Language?

Ans: Machine Language:

It is the language which the computer understands. Binary Language is another name for it.
It is tough to understand and debug for users.
Low-level language is machine-dependent and memory efficient.

High Level Language:-

It is programmer friendly language developed so that programmers can easily understand, interpret or compile the codes used.
It is portable and can run on any platform.
Examples C, C++, Java etc.

Q17:- Discuss about data types in C language.

Ans:- Data type represents type of data which can be processed in a computer programme. These are:-

Character	char	-128 to 127 or 0 to 255
Number	int	-32,768 to 32767
Small Number	short	-32768 to 32767
Long Number	long	-2,147,483,648 to 2,147,483,647

These are primitive data types.
char is used to store single character and requires single byte of memory.
int → As the name suggests, an int variable is used to store an integer
float → It stores decimal numbers.
double → It is used to store decimal numbers.

Q18:- Find output of following expressions:

a) X = 20/5*2.+30-5

→ X = 33

b) Y = 30-(40/10+6)+10

→ Y = 30-(4+6)+10 ⇒ Y = 30-10+10 ⇒ Y = 30

c) Z = 40*2./10-2+10

→ Z = 16

Q19: Describe syntax of following statements.

a) If-else Statement.

```
if (expression) statement;
   OR
if { true block of statements; }
else
{ else Block of statements; }
```

b) For Loop

Syntax is:

```
for (expression 1; expression 2; expression 3)
{
  Block of statements;
}
```

c) While loop

```
while (condition)
    single statement;
  OR
while (condition)
{ block of statements;
  }
```

d) do-while loop

```
do
{single statement
    or
  Block of statements }
while (condition);
```

Q2. Find output of following programme segments:

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

Ans: Output is:

IMS Ghaziabad

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

Output is

IMS Ghaziabad
IMS Ghaziabad

c) #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);
}

Output →
Largest number is 100.