

Assignment — 1

Q.1 What are the four fundamental parts of Computer it with the help of diagram.

Ans Four fundamental parts of Computer

Monitor

Key board

Mouse

C.P.U

Explain

1 Monitor

A Computer Monitor technically turned as a VDU Can be plainly transmits as an electronic device that transmits information from the Computer On to a Screen, there by acting as an interface and connecting the views with the Computer.

2. Keyboard

Programs And data are entered into a Computer through a Keyboard which is attached to a Computer. A Keyboard is similar to the keyboard of a typewriter. It contains alphabets, digits, special characters, function key and some keys.

3. Mouse

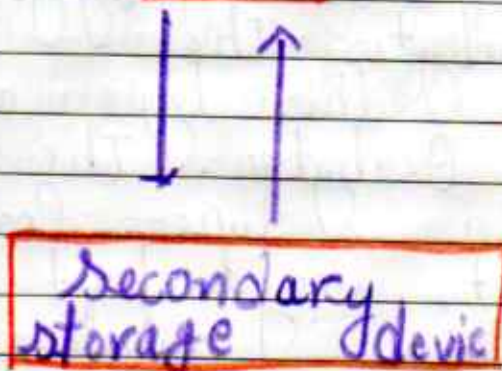
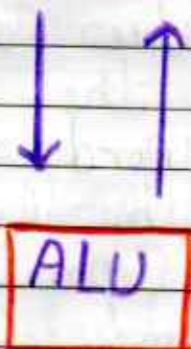
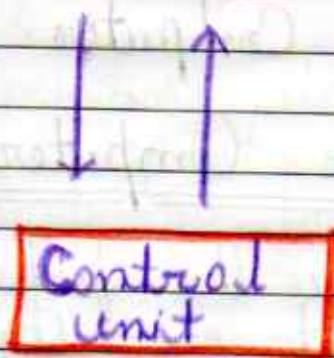
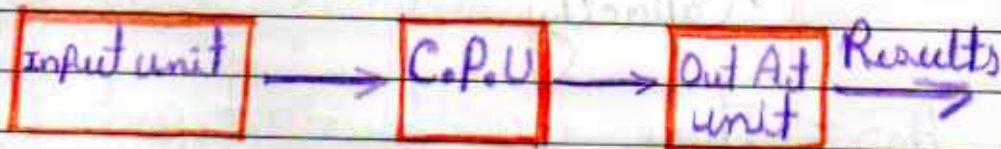
A Mouse is a pointing device. It is held in one hand and is moved across a flat surface.

4. C.P.U Central Processing Unit

The C.P.U is the brain of a Computer. Its primary job is to run programs and control the operation of all other components such as memory, keyboard and printer.

Explain Diagram

Program
Data



Q.2 Discuss about the Classification of Computers based on Size and Capacity.

Ans = There are four types in the Classification of the Computer by Size.

- ① Super Computer
- ② Mainframe Computer
- ③ Mini Computer
- ④ Micro Computer.

1. Super Computer

Super Computer are the fastest Computer in Current era. The Processing capabilities of Super Computer lies in the range of GIPS2. Word length 64-128 Or may be in 256 or so. The memory Capacity of Super Computer is in some Gigabytes or in Terabytes. The Storage Capacity of this type of Computer is in Exabytes. The Parallel Processing of a Super Computer makes it very fast because it contains numbers of G.P.U

that operates parallel.

The Size factors

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The above differences are Primary on the basis of three basic factors. namely.

① The Primary Storage Capacity

Speed of Processing data and Ability to Support different devices such as printers, tape drives etc.

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These features are inter dependent and faster Computer will ordinarily have large memory sizes and shall have facility to use a large numbers of sophisticated input output devices.

Mainframes Computer

Mainframes are bigger Computer Capables of handling data Processing needs of say, head office of a bank or a big multinational Company or may be a Public utility office. Mainframe Computer Systems have large Storage and the Speed of Processing is also very high.

They also offer the advantage of user choice with regard to up gradation of the system in future.

The Speed of Processing is expressed in terms of 10 to 100 million of instructions per second (MIPS) and cost somewhere between 1 million — dollars depending on the configuration. IBM still holds almost 80 Percent of mainframe market with its popular mainframe series IBM System 390.

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The mainframe popularity has fallen due to emergence of micro Computers and Popularity of Client Server technology. However they still find niche markets in large volume data processing requirements such as Central data base Servers.

③ Mini Computers :

Mini Computers are very Popular Among medium sized Companies. Mini Computers offer facilities for faster processing of voluminous information. Mini Computers of course are bigger than micro Computers but smaller than most of their elders called mainframes.

They Cost somewhere between Rs. 5 to 15 lac depending upon the Configuration. However these Prices are Only indicative and are subject to substantial change over time.

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They have also been used extensively as gateways between main frame network and as main server for local area networks of micro computers.

④ Micro Computers :

The Smallest among them are micro Computer. They are small in physical size most of them are desktop system. However, notebook Micro Computers that can fit into a briefcase are also available. They are economical in terms of cost and are finding in use. Personal Computer (PC) fall in to this category.

These Computer can be used for small data processing jobs of bigger companies or even as complete computer system for small firms. PC can also be connected with bigger.

Q.5 What is the meaning of Computer generation? How many Computer generations are defined? What technologies were / are used?

Ans. Generations in Computers terminology is a change in technology of a Computer is / was being used initially. The generations term was used to distinguish between varying hardware technologies. Now a days generation includes both hardware and software which together make up an entire Computer System.

The Computers are divided into five generations:—

- 1- First generation Computer: Vacuum Tubes (1940 — 1956)
- 2- Second generation Computer: (1964 — 1971)
- 3- Third generation Computers (1964 — 1971)

(iv) Fourth generation Computers (Present and beyond)

(v) First generation Computers : vacuum Tubes (1940 - 1956)

The technology behind the Primary generations of Computers was a fragile glass device, which was called vacuum tubes. These Computers were very huge and really large in size. They weren't very reliable and programming on them was a really tedious as they use high-level programming language and used no

First generation Computers were used for Calculation, Storage and Control that they needed a full room and consume lot of electricity.

Main first generations Computer

- ENIAC

- EDVAC

- UNIVAC

② Second generations Computer: Transistors (1956 - 1963)

Second generation Computers used the technology of transistors. Faster than bulky vacuum tubes. Another feature was the Core Storage. A transistor may be a device composed of semicon ductor material that amplifies a sign or opens or closes a circuit.

Programming language was shifted from high level to programming language and made programming comparatively a simple task for programmers.

3. Third Generations Computers Integrated Circuits (1964-197)

During the third generations technology ensured 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. was the most speed and reliable. IC was made from silicon and also called silicon chips.

4. Fourth Generations Computers Micro Processors (1971 - Present)

In 1971 First micro Processors were used. The large scale of integrations IC Circuits built on one chips called micro Processors. The most advantage of this technology is that one micro processor can contain all the circuits required to perform arithmetic logic and control function on one chip. Technologies like Multiprocessing, multiprocessing, Time Sharing, operating speed and virtual memory made it a more user friendly and customary device.

5. Fifth Generations Computers:

The technology behind the fifth Generations of Computers is AI. It allows Computers to behave like humans. It is often seen in programs like voice recognition, area of medicines and entertainment within the field of games playing also its shows remarkable performance where Computer are Capable of beating human Computers.

Q-4 Differentiate between volatile and Non volatile memories.

Ans = volatile Memory :- volatile Memory is a type of memory hardware that stores and fetches data at a very high speed.

Non-volatile Memory :-

Non-volatile memory is a permanent memory.

Difference between volatile Memory and - volatile memory.

volatile memory	Non volatile Memory
-----------------	---------------------

1- volatile memory are stored temporarily	Non-volatile memory are stored permanently
---	--

2- RAM is an example of volatile memory	Rom is an Example of Non-volatile memory
---	--

3- volatile memory	Non volatile memory
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more Costly Per unit is. less Costly Per unit

4- Volatile memory has a huge impact on the System's Performance. Non-volatile memory has a huge impact on a System's Storage Capacity.

5- In Volatile memory Processor has direct access to data. In non volatile memory Processor has no direct access to data.

6- Volatile memory chips are generally kept on the memory slot. Non-volatile memory chips are embedded on the motherboard.

7- 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.

Q.5 Distinguish among System Software application Software and Open Source Software on the basis of their features.

Ans = System Software

System Software is Software designed to provide a platform for other Software. Examples of System Software include Operating System like macOS

Linux, Android and Microsoft windows. Computational Science Software. game. Engineers Search engines industrial automation and Software as a Service application.

Application Software

An application Program (Software application, or application, or app for short) is Computer Programme designed to carry out a specific task other than carry out one relating to the operation of the Computer itself, typically to be used to

and users. word processors media players and accounting software are examples.

3. open Source Software

Open Source Software is software with source code that anyone can inspect, modify, enhance.

- 5 features of Open Source Software

- Innovation: open-source software helps facilitate more rapid innovation as it encourages that sharing of resources and information that in turn support technical development.

- Freedom

Integrity

Continuity

Community

giving Back to the
final thoughts ...

CCA-101: Fundamentals of Its
Programming

"Do it yourself"

Assignment with Solution

Assignment — (1)

Q.1 Write a Program in C to display your name and address on Computer screen

Ans.

```
#include <stdio.h>
#include <conio.h>
main {
```

```
printf("in my name is Shweta")
printf("I am I Purvi Parasi Mohli")
```

Q.2 Write a Program in two Integer Numbers.

Ans. Soul Solutions

```
#include <stdio.h>
#include <conio.h>
main {
```

```
int a = 10; b = 20; int sum = 0;
sum = a + b;
printf("sum is %d", sum);
```

Q.3 Write a program in C to compute the value of x in this expression $x = 20 / (18 - 44) * 8 - 2$

Ans Solution

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

{

```
int x;
```

```
x = 20 / (18 - 44) * 8 - 2;
printf("x = %.d", x);
```

```
display the value of x
```

Output - $x = 38$

Q.4 Write a program in C to compute a quotient and remainder.

Ans = Solution

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

```
{
    int dividend, divisor, remainder;
    // declare variables as integer type
```

```
printf("Enter dividend: ");
```

```
scanf("%d", &dividend);
```

```
printf("Enter divisor: ");
```

```
scanf("%d", &divisor);
```

```
remainder = dividend % divisor;
```

```
printf("Quotient = %d and Remainder = %d", dividend/divisor, remainder);
```

$\text{Summand} = \text{dividend} \cdot \% \cdot \text{divisor}$

`printf ("Quotient = \%d \n", quotient)`

`printf ("Remainder = \%d", Summand)`

Out Put

Enter dividend = 30

Enter divisor = 3

Quotient = 6

Remainder = 2

Q5 write a Programme in C to Swap the value of two integer number. -

Ans. Solutions

Swap numbers using temporary variable

```
#include <stdio.h>
```

```
void main ()
```

```
{ int n1, n2, temp;
```

```
  n1 = 10;
```

```
  n2 = 20;
```

```
  temp = n1;
```

$n1 = n2$

$n2 = \text{temp};$

printf("In after Swapping",
number = "%d", n1);

Print ("In after Swapping", n
number = "%d", n2);

Out Put

After Swapping 'n' number =
after Swapping, n2
number = 10 Swap number
with out using temporary
numbers

include <studio h>

void main (1)

in n1, n2;

$n1 = 40;$

$n2 = 10;$

" Swapping

$n1 = n1 - n2;$

$n2 = n1 + n2;$

$n1 = n2 - n1;$

printf ("In after Swapping",
number = "%d", n1);

Print ("In after Swapping", n2
= "%d", n2);

Q.10 write a Program to calculate the Sum of digits of an integer number.

Ans. Solution

```
#include (stdio.h)
void main () {
    int n, Sum = 0, digit;
    printf ("Enter an integer:");
    scanf ("%d", &n);
    while (n != 0) {
        digit = n % 10;
        Sum = Sum + digit;
        n = n / 10;
    }
    printf ("Sum of the digits = %d", Sum);
}
```

Q.11 write a Program to reverse an integer number.

Ans. Solution

```
#include (stdio.h)
void main () {
    int n, rev = 0, digit;
    printf ("Enter an integer:");
}
```

```

scanf ("%d", &n);
while (n != 0) {
    digit = n % 10;
    rev = rev * 10 + digit;
    n = n / 10;
}
printf ("Reversed number = %d", rev);

```

Q.11 write a programme to calculate factors of a positive integer.

Ans Solution

```

#include <stdio.h>
void main () {
    int num;
    printf ("Enter a Positive Integer")
    scanf ("%d", &num);
    printf ("Factors of %d are", num);
    for (i = 1; i <= num; ++i) {
        if (num % i == 0) {
            printf ("%d ", i);
        }
    }
}

```