

EXPERIMENT-1:-

BASIC COMPUTER OPERATION

OBJECTIVE - Identification of different components , switch on and booting process , shut down

Restart of computers.

THEORY/ PROCEDURE – In this experiment, it is studied how to switch on and switch off the computer system. Computers have a power button that switch it on and off. We have to find the power button on the CPU case/cabinet . As soon as the computer is switched on this starts the booting process. During this process start up software(stored in ROM) takes control and starts searching the OS . Then OS will be loaded into RAM and it will take control.

It is very important to shut down the computer properly after use . We need to identify shut down option and click it. Don't shut down the computer using the on/off switch as it can damage the OS.

Restart or Reboot is the process of restarting a working computer using a power button.

CONCLUSION -_ The basic operation like switch on, switch off, restart the computer is studied . Different components of computer are identified.

EXPERIMENT-2.1:-STUDY OF DEVICE AND POWER SUPPLY FORM FACTOR OF PERSONAL COMPUTER.

THEORY- Power supply unit(PSU) is the component that supplies power to the computer . The computers are plugged in to standard electrical outlets. Electrically from wall outlets is provided in AC(alternating current). All components of computer require DC(direct current) . PSU converts AC power to lower voltage DC power.

Various computer power supply form factors that have evolved over time are discussed such as:

1. Advanced Technology(AT) - It was the original power supply for computer system . Now it is obsolete.
2. AT Extended(ATX) –It is updated version of AT.
But still it is also obsolete.
3. ATX12V- It is the most common power supply on the market today. It includes a 2nd motherboard connector to provide dedicated power to CPU. There are several versions of ATX12V available.
4. EPS12V – It was originally designed for network servers. But now it is commonly used in high-end desktop models.

Power Supply Voltage- The most common voltages supplied are 3.3volts , 5volts , 12volts , 3.3v and 5v supplies are used by digital circuits . 12v supply is used to run motors in disk drives and fans .

A computer can tolerate slight fluctuations in power , but significant deviation can cause failure.

SMPS– Switch mode power supply is a type of power supply unit that uses some kind of switching devices to transfer electrical energy from source to load . It converts higher AC voltage to lower DC voltage . Desktop power supply is used to convert 230v into +3.3v , +5v , +12v , -5 , -12v DC power .

BENEFITS OF SMPS-Is small , light weight , ideal to use .

EXPERIMENT-2.2:-IDENTIFICATION OF VARIOUS MOTHERBOARD COMPONENTS . **IDENTIFICATION OF DIFFERENT PORTS.**

THEORY- Motherboard/system board/main board is the backbone of the computer . It is a printed circuit board . It contains buses , or electrical pathways that interconnect electronic components . These components are soldered directly to the motherboard or added using sockets , expansion slots and ports .

MOTHERBOARD COMPONENTS-

- CPU :- It is the brain of computer.
- RAM :- It is temporary storage to store data which are required for processing .
- Expansion Slots :- It provide locations to connect additional components .
- Chipset :- It consists of IC that controls how system hardware interacts with motherboard and CPU .
- BIOS chip and UEFI chip :- BIOS(BASIC INPUT/OUTPUT SYSTEM) UEFI(UNIFIED EXTENSIBLE FIRMWARE INTERFACE)

BIOS helps to boot the computer and manage dataflow between hard drive , video card , keyboard , mouse etc. In modern systems BIOS is replaced by UEFI . UEFI specifies a different firmware to boot and runtime services. Firmware is a program that allows a computer OS to control the hard wares .

Motherboard chipset is of 2 types :-

(1)Northbridge:- Controls high speed access to RAM and video card. It also Controls the speed of CPU at which it communicates with all Other components of computer.

(2)Southbridge :- Allows the CPU to communicate with slower devices such as Hard drives, USB ports and expansion slots .

- Expansion Slot :- Also called as a bus slot or expansion slot . It is a connection or port inside a computer on the motherboard . It provides an installation point for a hardware expansion card to be connected .

Ex :- (i) AGP :- Video Card

(ii)AMR :- Modem , Sound Card

(iii)CNR :- Modem, Network Card , Sound card

(iv)EISA :- SCSI , network card , video card

(v)ISA :- Network card , sound card , video card .

(vi)PCI :- Network card , SCSI , Sound card , video card

(vii)PCI Express :- Video Card , Modem , Sound Card , Network card

(viii)VESA :- Video card

Except AGP , PCI and PCI express other slots are obsolete .

- Keyboard and Mouse :- Mainly 2 types of mouse and keyboard connectors :
(i) PS/2

(ii) USB

- USB :- (Universal Serial Bus) The USB port is used for connecting various devices of computer system . Various devices are keyboard , mouse , camera , scanner , printers etc.USB port connects the peripheral devices and computer motherboards . The peripheral device connected to the computer can be inserted or removed without restarting system .
- Parallel Port :- Old printers use the parallel port to connect with the computer .
- IDE Controller :- The integrated device electronics are also known as ATA or parallel ATA . IDE is used for hard drive control .
- CMOS Battery :- It is used for storing BIOS settings on the motherboard . It is also capable of storing time and date in it .

CONCLUSION:- A computer motherboard , its components and ports are studied .

EXPERIMENT-2.3:- TYPES OF CONNECTORS AND THEIR PURPOSE

TYPES OF CONNECTORS :-A power supply includes several different connectors .

(1)20-pin or 24-pin connector :- It connects to the motherboard.

- 24 pin connector has 2 rows of 12 pins each .
- 20 pin connector has two rows of 10 pins each .

(2)SATA Keyed Connector :- It connects disk drives .

- Connector is wider and thinner than molex connector .

(3)Molex keyed Connector :- It connects hard drives , optical drives , or other devices .

(4)Berg keyed Connector :- It connects to floppy drives . It is smaller than a Molex connector .

(5)4-Pin to 8-Pin auxiliary power connector :- It has two rows of 2-4 pins and supplies power connector it the same shape as the main power connector but it is smaller .

(6)6/8-pin PCIe power connector:-It has two rows of 3-4 pins and supplies power to internal components .

PURPOSE OF CONNECTOR:-connector are used to power various internal components such as motherboards and disk drives . The connectors are keyed which means that they are designed to be inserted in only one orientation .

PROCESSOR:-

- It interprets and executes commands .
- It handles instructions from keyboards etc or other hardware .
- It interprets the instructions and outputs the information to monitor .
- CPU(Central Processing Unit) is a small microchip which is present with in CPU package .
- The CPU package is called as CPU .

EXPERIMENT-2.4:-COOLING SYSTEM OF PROCESSOR AND THEIR PURPOSE

COOLING SYSTEMS:-

- The flow of current between electronic components generates heat .
- Computer components perform better when kept cool .
- If the heat is not removed then they run slowly .
- If too much heat builds up , then computer could crash or components may get damaged .
- Computers are kept cool by using active and passive cooling systems .
- Active cooling system requires power , but passive cooling system does not need power.
- Passive cooling solution usually involves reducing the speed at which the component is operating or adding heat sinks .
- Active cooling solution is use of case fans .

CASE :-

- The case of a desktop computer houses the internal components such as power supply , motherboard , central processing unit , memory ,disk drives and assorted adapter cards.
- Cases are usually made up of plastic, steel or aluminium .
- It provides a framework to support , protect and cool the internal components .
- Desktops are available in various form factors like :-
 - ✓ Horizontal case
 - ✓ Full size tower
 - ✓ Compact tower
 - ✓ All in one

CONCLUSION:-

Thus, different ports, connectors ,processor cooling system ,types of cases are studied .

EXPERIMENT-2.5:-IDENTIFICATION AND STUDY OF RAM, ROM, ADAPTER CARDS, EXPANSION SLOTS, SATA CONNECTORS .

THEORY/PROCEDURE :- Memory chips are used for storing data in the form of bytes .

ROM:-An essential computer chip is the read only memory (ROM) chip . ROM chips are located on the motherboard and other circuit boards and contain instructions that can be directly accessed by CPU . The instructions stored in ROM include basic operation instructions such as booting the computer and loading the OS .

ROM is non-volatile which means that the contents are not erased when computer is off.

RAM:-It is temporary working storage space for data and programs which are accessed by CPU . RAM is volatile memory , which means its contents are erased every time the computer is powered off .

More space of RAM means enhancement in system performance .

More RAM increases the memory capacity of the computer to hold and process programs .

With less RAM , less data can be stored so during processing data will be swapped between RAM and slower hard disk .

The maximum amount of RAM that can be installed is limited by the motherboard .

ROM:- Information is written to ROM chip during its manufacture .

ROM chip can't be erased or rewritten .

It has become obsolete .

TYPES OF ROM:-

(1)PROM:-

- Programmable ROM .
- These are manufactured blank .
- They can be written/programmed when needed .
- Generally these chips can't be erased .
- They can be programmed once .

(2)EPROM:-

- Erasable Programmable ROM .
- It can be erased by exposing it to UV light .
- It has a transparent quartz window on the top of chip .
- Constant erasing and reprogramming could make the chip useless .

(3)EEPROM:-

- Electrically Erasable PROM .
- Information is written to it after it is manufactured .
- It can be erased using electrical power supply without removing it from device .
- It is also called Flash ROM .
- Its content can be flashed for deletion .
- It often stores computer's BIOS .

TYPES OF RAM:-

(1)Dynamic RAM:-

Older technology .

It gradually discharges energy so it must be refreshed constantly .

It is refreshed by using electricity to maintain the stored data on chip .

(2)Static RAM:-

It requires constant power to function .

Often used for cache memory .

Uses lower power consumption .

Much faster than DRAM .

More expensive than DRAM .

(3)Synchronous DRAM:-

DRAM that operates in synchronization with the memory bus .

It has higher transfer rates .

(4)DDRSDRAM:-

Double data rate synchronous dynamic RAM .

It transfer data twice as fast as SDRAM .

Its family : DDR2SDRAM

DDR3SDRAM

DDR4SDRAM

EXPERIMENT-2.6:-IDENTIFICATION AND STUDY OF ADAPTER CARDS, EXPANSION SLOTS, SATA CONNECTORS.

THEORY/PROCEDURE:- Adapter cards increase the functionality of a computer by adding controllers for specific devices or by replacing malfunctioning ports . There are various types of adapter cards available such as :-

- (i)Sound Adapter:- It provides audio capacity .
- (ii)Network Interface Card:-A wireless NIC connects a computer to a network using a network cable .
- (iii)Wireless NIC:-A wireless NIC connects a computer to a network using radio frequencies.
- (iv)Video Adapter:-Video adapters provide video capability .
- (v)Capture Card:-It sends a video signal to a computer so that the signal can be recorded to a storage drive with video capture software .
- (vi)TV tuner card:-It provides the ability to watch and record TV signals on a PC by connecting a cable TV, satellite or antenna to installed tuner card .
- (vii)USB controller card:-It provides additional USB(Universal Serial Bus) ports to connect the computer to peripheral devices .
- (viii)eSATA Card:-It adds additional internal and external SATA ports to a computer through a single PCI express slot .

Some other adapter cards are – modem adapter, Accelerated Graphics Port(AGP), a Small Computer System Interface(SCSI) adapter etc .

Computers have expansion slots on motherboard to install adapter cards .

The type of adapter card connector must match the expansion slot .

CONCLUSION:-

Adapter cards, Expansion slots, SATA connectors are studied .

EXPERIMENT-2.7:-STUDY OF ADAPTERS AND CONVERTERS .

THEORY/PROCEDURE:-

Adapter:-This is a component that physically connects one technology to another . for example, a DVI to HDMI adapter. The adapter could be one component or a cable with different ends .

Converter:-This performs the same function as an adapter but also translates the signals from one technology to other . For example, a USB 3.0 to SATA converter enables a hard disk drive to be used as a flash drive .

DVI to VGA adapter:-It is used to connect a VGA cable to DVI port .

USB to Ethernet converter:-This is used to convert USB to Ethernet .

USB to PS/2 adapter:-It is used to connect a USB keyboard or mouse to a PS/2 port .

DVI to HDMI adapter:-It is used to connect an HDMI cable to a DVI port .

Molex to SATA adapter:-It is used to connect a SATA drive to a Molex power cable .

HDMI to VGA converter:-it is used to convert VGA signals to HDMI signals .

CONCLUSION:-Adapter and converters are studied.

EXPERIMENT-3.1:-STUDY OF LAB TOOLS:STUDY OF VARIOUS TYPES OF LAB SAFETY MEASURES(GENERAL SAFETY, ELECTRICAL SAFETY, FRE SAFETY)

THEORY:-Safety guidelines help protect individuals from accidents and injury. This also help to protect equipment from damage .

GENERAL SAFETY:-Safe working condition help prevent injury to people and damage to computer equipment. A safe workplace is clean, organised and properly lighted. Follow the basic guidelines to prevent cuts, burns, electrical shock, damage to eyesight. Partial list of basic safety precautions to use when working on computer is as follows :

- Remove your watch and jewellery and secure loose clothing .
- Turn off the power and unplug equipment before performing service .
- Cover sharp edges inside the computer case with tape .
- Never open a power supply or a CRT monitor .
- Do not touch areas in printers that are hot or that use high voltage .
- Know where the fire extinguisher is located and how to use it .
- Keep food and drinks out of your workspace .
- Keep your workspace clean and free of clutter .
- Bend your knees while lifting heavy objects .

ELECTRICAL SAFETY:-Follow electrical safety guidelines to prevent electrical fires, injuries and fatalities . Some printer parts, such as power supplies, contain high voltage . Check the printer manual for the location of high voltage components . Some components retain high voltage even after the printer is turned off .

Electrical devices have certain power requirements . For example, AC adapters are manufactured for specific laptops . Exchanging AC adapters with different type of laptop may cause damage to AC adapter and laptop . Electric equipments must be grounded . If a fault causes metal parts of the equipment to become live with electrical current, the ground will provide a path for the current to flow harmlessly away . Computers, Large equipment such as server racks must be grounded .

FIRE SAFETY:-

- 1) Don't forget to contact emergency services for help .
- 2) You should make sure you know how to get out of the building quickly .
- 3) You should locate and read all the instructions on any fire extinguisher near your workspace before use .
- 4) Make sure fire extinguisher is going to work .

- 5) Remember the word pass, P stands for pull the pin . A stands for Aim at the base of the fire, not at flames , S stands for squeeze the lever . S stands for sweep the nozzle from side to side.
- 6) Be familiar with all types of fire extinguisher.

CONCLUSION:-Hence, all types of safety measures are studied .

EXPERIMENT-3.2:-ANALYSIS OF VARIOUS POWER FLUCTUATION TYPES LIKE BLACKOUT, BROWNOUT, NOISE, SPIKE, POWER SURGE ETC.

THEORY/PROCEDURE:-Voltage is a measure of energy required to move a charge from one location to another . The movement of electrons is called current . computer circuits need voltage and current to operate electronic components . When the voltage in a computer is not accurate or steady, computer components might not operate correctly . Unsteady voltages are called power fluctuations .

AC power fluctuations can cause data loss or hardware failure . Examples are –

- 1) BLACKOUT:-Complete loss of AC power. A blown fuse, damaged transformer, or downed power line can cause a blackout .
- 2) BROWNOUT:-Reduced voltage level of AC power that lasts for a period of time. Brownouts occur when the power line voltage drops below 80% of the normal voltage level and when electrical circuits are overloaded .
- 3) NOISE:-Interference from generators and lightening . Noise results in poor quality power, which can cause errors in a computer system .
- 4) SPIKE:-Sudden increase in voltage that lasts for a short period and exceeds 100% of the normal voltage on a line . Spikes can be caused by lightening strikes . But it can also occur when the electrical system comes back on after a blackout .
- 5) POWER SURGE:-Dramatic increase in voltage above the normal flow of electrical current . A power surge lasts for a few nanoseconds or one-billionth of a second .

CONCLUSION:-Hence, all types of power fluctuations are studied .

EXPERIMENT-3.3:-STUDY OF POWER PROTECTION DEVICES(SURGE PROTECTOR, UPS, STANDBY POWERSUPPLY)

THEORY/PROCEDURE:-To help shield against power fluctuations problems, devices are used to protect the data and computer equipment . These are power protection devices . There are 3 types of power protection devices such as:

- (i) Surge protector
- (ii) UPS
- (iii) Standby Power Supply

(i)Surge protector:-Helps to protect against damage from surges and spikes. A surge processor diverts extra electrical voltage that is on the line to the ground. The amount of protection offered by a surge protector is measured in joules. The higher the Joule rating, the more energy over time the surge protector can absorb. Once the number of joules is reached, the surge protector no longer provides protection and will need to be replaced .

(ii)Uninterrupted Power Supply(UPS):-Helps protect against potential electrical power problems by supplying a consistent level of electrical power to a computer or other device . The battery is constantly recharging while the UPS is in use . The UPS provides a consistent quality of power when brownouts and blackouts occur. Many UPS devices can communicate directly with the computer OS. This communication allows the UPS to safely shutdown the computer and save data prior to the UPS losing all battery power.

(iii)Standby Power Supply:-Helps protect against potential electrical power problems by providing a backup battery to supply power when the incoming voltage drops below the normal level. The battery is on standby during normal operation. When the voltage decreases the battery provides DC power to a power inverter, which converts it to Ac power for the computer. This device is not reliable as a UPS because of the time it takes to switch over to the battery. If the switching device fails, the battery cannot supply power to the computer.

CONCLUSION:-Thus different types power protection devices are studied.

EXPERIMENT-3.4:-TO STUDY PROCEDURES FOR PROPER DISPOSAL OR RECYCLING OF HAZARDOUS COMPUTER COMPONENTS(BATTERIES, MONITORE, TONER KITS, CATRIDGES, CHEMICAL SOLVENTS AND AEROSOL CANS)

THEORY/PROCEDURE:-After upgrading a computer or replacing a broken device, what will you do with the leftover parts? If the parts are still good, they can be donated or sold. Parts that no longer work must be disposed of but they must be disposed of responsibly. The proper disposal or recycling of hazardous computer components is a global issue. Make sure to follow regulations that govern how to dispose specific items organisations that violate these regulations can be fined or face expensive legal battles. Regulations for the disposal of the items on this page vary from state and from country to country. Check your local environment regulatory agency.

BATTERIES :-Batteries often contain rare earth materials that can be harmful to the environment. These metals do not decay and remain in the environment for many years. Mercury is commonly used in the manufacturing of batteries and is extremely harmful to humans. Recycling batteries should be standard practice. All the batteries are subject to disposal procedures that comply with local environment regulations.

MONITORS:-Handle CRT monitors with care. Extremely high voltage can be stored in CRT monitors, even after being disconnected from a power source. Monitors contain glass, metal, plastics, lead, barium and rare earth metals. According to the U.S Environmental Protection Agency(EPA), monitors can contain approximately 4 pounds (1.8kg) of lead. Monitors must be disposed of in compliance with environmental regulations.

TONER KITS, CATRIDGE AND DEVELOPERS :-Used printer toner kits and printer cartridge must be disposed of properly in compliance with environmental regulations. They can also be recycled. Some toner cartridge suppliers and manufactures take empty cartridges for refilling. Kits to refill inkjet printer cartridges are available but are not recommended, because the ink might leak into the printer, causing irreparable damage. Using refilled inkjet cartridges might also void the inkjet printer warranty.

CHEMICAL SOLVENTS AND AEROSAL CANS:-Contact the local sanitation company to learn how and where to

EXPERIMENT-3.5:-STUDY OF GENERAL LAB TOOLS(ESD TOOLS, HAND TOOLS, CABLE TOOLS, CLEANING TOOLS, DIAGNOSTIC TOOLS) AND DISK MANAGEMENT TOOLS.

THEORY:-Using tools properly helps prevents accidents and damage to equipment and people. This section describes and covers the proper use of a variety of hardware, software and organizational tools specific to working with computers and peripherals.

HARDWARE TOOLS:-These are grouped into 4 types :

- ✓ ESD tools
- ✓ Hand tools
- ✓ Cable tools
- ✓ Cleaning tools
- ✓ Diagnostic tools

ESD TOOLS:-There are two ESD tools: the antistatic wrist strap and the antistatic mat. The antistatic wrist strap protects computer

EXPERIMENT-4.1:-BASIC DOS COMMANDS(CLS,DIR,DATE,TIME,VERSION,MD,CD,RD DEL , COPY, REN, USE OF WILD CARDS,PATH).

THEORY:-MS DOS(MICROSOFT DISK OPERATING SYSTEM). In this OS, a number of standard commands are provided for common tasks.

CLS:-This is a command used to clear the screen.

Syntax:-C:\>CLS enter

Meaning:-It cleans the screen.

DIR:-It displays the files and directories (except hidden files) present in the current directory.

Syntax:-C:\>DIR enter

DATE:-It displays the current date and it also prompts to enter a new one. Press enter to keep the current date.

Syntax:-C:\>DATE enter

TIME:-It displays the current time and it also prompts to enter a new one.

Syntax:-C:\>TIME enter

VER:-It is used to display the current version of MS DOS used.

Syntax:-C:\>VER enter

MD OR MKDIR:-It is used to create directories or subdirectories under the current directory.

Syntax:-C:\>MD (DIRECTORY NAME) enter

OR,C:\>MKDIR (DIRECTORY NAME) enter

CD OR CHDIR:-It means change/switch directory.

Syntax:-C:\>CD (DIRECTORY NAME) enter

C:\>CHDIR (DIRECTORY NAME) enter

RD/RMDIR:-It is used to remove the subdirectory.

Syntax:-C:\>RD (DIRECTORY NAME) enter

C:\>RMDIR (DIRECTORY NAME) enter

DEL:-It is used to delete the specific file without sending it to recycle bin.

Syntax:-C:\>DEL (filename) enter

COPY:-It is used to copy files from one location to another .

Syntax:-C:\>COPY (source file) (destination file) enter

EX-C:\test>copy con abc.txt enter

C:\test>copy abc.txt con enter

REN:-It is used to rename the file.

Syntax:-C:\>REN (old filename) (new filename) enter

Ex:- C:\>REN abc.txt new.txt enter

PATH:-It displays the current path.

Syntax:-C:\>path enter

EXIT:-It is used to exit from currently running application.

Syntax:-C:\>EXIT enter

EXPERIMENT-7:-

1.AIM OF THE EXPERIMENT:TO FIND THE GREATEST AMONG 3 NUMBERS.

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

```
int main()
```

```
{
```

```
    int a,b,c ;
```

```
    printf("input 3 numbers");
```

```
    scanf("%d%d%d",&a,&b,&c);
```

```
    if(a>b)
```

```
    {
```

```
        if(a>c)
```

```
        {
```

```
            printf("biggest no=%d",a);
```

```
        }
```

```
        else
```

```
        {
```

```
            printf("biggest no=%d",c);
```

```
        }
```

```
    }
```

```
    else
```

```
    {
```

```
        if(b>c)
```

```
        {
```

```
            printf("biggest no=%d",b);
```

```
        }
```

```
        else
        {
            printf("biggest no=%d",c);
        }
    }
    return 0;
}
```

2.AIM OF THE EXPERIMENT:WAP TO FIND AVERAGE OF N NUMBERS BY USING LOOP.

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

```
int main()
```

```
{
```

```
    int n,a,x,sum=0,avg;
```

```
    printf("input n");
```

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

```
    for(a=1;a<=n;a++)
```

```
    {
```

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

```
        sum=sum+x;
```

```
    }
```

```
    avg=sum/n;
```

```
    printf("average =%d",avg);
```

```
    return 0;
```

```
}
```

3.WAP TO FIND WHETHER A NUMBER IS PRIME OR NOT.

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

```
int main()
```

```
{
```

```
    int n,a,flag=0;
```

```
    printf("input a number");
```

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

```
    for(a=2;a<n;a++)
```

```
    {
```

```
        if(n%a==0)
```

```
        {
```

```
            flag=1;
```

```
        }
```

```
    }
```

```
    if(flag==0)
```

```
    {
```

```
        printf("prime number");
```

```
    }
```

```
    else
```

```
    {
```

```
        printf("not a prime number");
```

```
    }
```

```
    return 0;
```

```
}
```

4.AIM OF THE EXPERIMENT:WAP TO CHECK A NUMBER IS PALINDROME OR NOT.

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

```
int main()
```

```
{
```

```
    int n,dig,m,rev=0;
```

```
    printf("input a number");
```

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

```
    m=n;
```

```
    while(n>0)
```

```
    {
```

```
        dig=n%10;
```

```
        rev=rev*10+dig;
```

```
        n=n/10;
```

```
    }
```

```
    if(m==rev)
```

```
    {
```

```
        printf("palindrome");
```

```
    }
```

```
    else
```

```
    {
```

```
        printf("not palindrome");
```

```
    }
```

```
    return 0;
```

```
}
```

5.AIM OF THE EXPERIMENT:WAP TO FIND THE SINE SERIES.

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

```
#include<math.h>
```

```
int main()
```

```
{
```

```
    float angle,value;
```

```
    printf("enter an angle:");
```

```
    scanf("%f",&angle);
```

```
    value=sin(angle*m_pi/180);
```

```
    printf("sin(%f)=%f",angle,value);
```

```
    return 0;
```

```
}
```

6.AIM OF THE EXPERIMENT:WAP TO ACCEPT ROW WISE ELEMENT IN 2D ARRAY AND PRINT THEM.

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

```
int main()
```

```
{
```

```
    int a[3][3],i,j;
```

```
    printf("enter 9 elements");
```

```
    for(i=0;i<3;i++)
```

```
    {
```

```
        for(j=0;j<3;j++)
```

```
        {
```

```
            scanf("%d",&a[i][j]);
```

```
        }
```

```
    }
```

```
    for(i=0;i<3;i++)
```

```
    {
```

```
        for(j=0;j<3;j++)
```

```
        {
```

```
            printf("%d",a[i][j]);
```

```
        }
```

```
        printf("\n");
```

```
    }
```

```
    return 0;
```

```
}
```


7.AIM OF THE EXPERIMENT:WAP TO FIND THE VOWELS IN A GIVEN STRING.

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

```
#include<string.h>
```

```
Int main()
```

```
{
```

```
    char s[20];
```

```
    printf("input a string");
```

```
    gets(s);
```

```
    for(i=0;i<20;i++)
```

```
    {
```

```
        If(s[i]=='A' || s[i]=='a' || s[i]=='E' || s[i]=='e' || s[i]=='I' || s[i]=='i' || s[i]=='u' || s[i]=='U' || s[i]=='o' || s[i]=='O')
```

```
        {
```

```
            printf("%c",s[i]);
```

```
        }
```

```
    }
```

```
    return 0;
```

```
}
```

8.AIM OF THE EXPERIMENT:WAP TO CHECK A NUMBER IS FACTORIAL OR NOT USING RECURSION.

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

```
int fact(int);
```

```
int main()
```

```
{
```

```
    int n,r;
```

```
    printf("enter a number");
```

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

```
    r=fact(n);
```

```
    printf("factorial=%d",r);
```

```
    return 0;
```

```
}
```

```
int fact(int x)
```

```
{
```

```
    if(x==0)
```

```
        return 1;
```

```
    else
```

```
        return(x*fact(x-1));
```

```
}
```