

/\*Write a program in C++ that first initialises an array of given 10 real numbers. The program must sorts numbers in ascending or descending order using bubble sort method. It should prints the given list of numbers as well as the soted list \*/

```
#include<iostream.h>
#include<conio.h>
void main()
{
    clrscr();
    float a[]={10.1,8.1,7.1,6.4,1.1,4.5,2.1,3.2,6.7,4.9};
    cout<<"The original list of element is\n";
    for(int i=0;i<10;i++)
    {
        cout.precision(2);
        cout<<a[i]<<"\n";
    }
    cout<<"\n The sorted list in Ascending order\n";

    //sorting nos by bubble sort
    for(i=0;i<10;i++)
    {
        for(int j=0;j<10;j++)
        {
            if(a[i]<a[j])
            {
                cout.precision(2);
                float s=a[i];
                a[i]=a[j];
                a[j]=s;
            }
        }
    }
    for(i=0;i<10;i++)
    {
        cout.precision(2);
        cout<<a[i]<<"\n";
    }
    getch();
}
```

The original list of element is

10.1

8.1

7.1

6.4

1.1

4.5

2.1

3.2

6.7

4.9

The sorted list in Ascending order

1.1

2.1

3.2

4.5

4.9

6.4

6.7

7.1

8.1

10.1

/\*Write a program in C++ that first initialises an array of given 10 real numbers. The program must sorts numbers in ascending or descending order using bubble sort method. It should prints the given list of numbers as well as the soted list \*/

```
#include<iostream.h>
#include<conio.h>
void main()
{
    clrscr();
    float a[]={10.1,8.1,7.1,6.4,1.1,4.5,2.1,3.2,6.7,4.9};
    cout<<"The original list of element is\n";
    for(int i=0;i<10;i++)
    {
        cout.precision(2);
        cout<<a[i]<<"\n";
    }
    cout<<"\n The sorted list in descending order\n";

    //sorting nos by bubble sort
    for(i=0;i<10;i++)
    {
        for(int j=0;j<10;j++)
        {
            if(a[i]>a[j])
            {
                cout.precision(2);
                float s=a[i];
                a[i]=a[j];
                a[j]=s;
            }
        }
    }
    for(i=0;i<10;i++)
    {
        cout.precision(2);
        cout<<a[i]<<"\n";
    }
    getch();
}
```

The original list of element is

10.1

8.1

7.1

6.4

1.1

4.5

2.1

3.2

6.7

4.9

The sorted list in descending order

10.1

8.1

7.1

6.7

6.4

4.9

4.5

3.2

2.1

1.1

```

/*Write a function in C++ that exchanges data (passing)by reference using
swap functiopn to interchange the given two numbers */
#include <iostream.h>
#include <conio.h>
void swap(int &,int &);
void main()
{
    int a,b;
    clrscr();
    cout<<"\nEnter two numbers";
    cin>>a>>b;
    cout<<endl<<"Original values : ";
    cout<<endl<<"a = "<<a<<"  b = "<<b;
    swap(a,b);
    getch();
}
void swap(int &x,int &y)
{
    int t;
    t=x;
    x=y;
    y=t;
    cout<<endl<<"New values : ";
    cout<<endl<<"a = "<<x<<"  b = "<<y;
}

```

Enters two numbers

4

5

Original values :

$a = 4 \quad b = 5$

New values :

$a = 5 \quad b = 4$

```

/*Write a function in C++ that exchanges data (passing)by reference using
swap functiopn to interchange the given two numbers */
#include<iostream.h>
#include<conio.h>
void swap(float &x,float &y);
void main()
{
clrscr();
float a,b;
cout<<"\n Enters two floating numbers";
cin>>a>>b;
cout<<"\nBefore swap";
cout<<"a="<<a<<" b="<<b;
swap(a,b);
cout<<"\nAfter swap";
cout<<"a="<<a<<" b="<<b;
getch();
}
void swap(float &x, float &y)
{
float t=x;
x=y;
y=t;
}

```

Enters two floating numbers

8.3

2.5

Before swap a=8.3 b=2.5

After swap a=2.5 b=8.3



```

/*Write a function in C++ that exchanges data (passing)by reference using
swap functiopn to interchange the given two numbers */
#include<iostream.h>
#include<conio.h>
void swap(int *x,int *y);
void main()
{
clrscr();
int a,b;
cout<<"\nEnter two integer numbers";
cin>>a>>b;
cout<<"\nBefore swapping";
cout<<" a="<<a<<" b="<<b;
swap(&a,&b);
cout<<"\nAfter swapping";
cout<<" a="<<a<<" b="<<b;
getch();
}
void swap(int *x, int *y)
{
int temp;
temp=*x;
*x=*y;
*y=temp;
}

```

Enters two integer numbers

5

6

Before swapping a=5 b=6

After swapping a=6 b=5

/\*Write a program in C++ that first initialises an array of given 10 sorted real numbers. The program must is to verify whether the given element belongs this array or not, using binary search technique. The element to be searched is to entered at the time of execution. If number is found then program should print its position in the array otherwise it should print the number is not found \*/

```
#include<iostream.h>
#include<conio.h>
#include<stdlib.h>
void main()
{
clrscr();
float a[10],p;
int i,top,bot,mid;
cout<<"Type 10 real numbers in ascending order"<<"\n";
for(i=0;i<10;i++)
{
cin>>a[i];
}
top=0;
bot=9;
back:cout<<"\ntype the no u want to search \n";
cin>>p;
mid=(top+bot)/2;
while((top<=bot)&&(a[mid]!=p))
{
if(p<a[mid])
bot=mid-1;
else
top=mid+1;
mid=(top+bot)/2;
}
if(a[mid]==p)
{
cout<<"The no is at position="<<(mid+1)<<"\n";
cout<<"\nThe binary search is successuful";
cout<<"\nEnter number not in list for unsuccessful";
goto back;
}
else
cout<<"\noh the search is unsuccessful";
cout<<"\nth the no is not found in entire list\n";
getch();
}
```

Type 10 real numbers in ascending order

50.1

100.2

150.3

200.4

250.5

300.6

350.7

400.8

450.9

500.10

type the no u want to search

400.8

The no is at position=8

The binary search is successful

Enter number not in list for unsuccessful

type the no u want to search

600

oh the search is unsuccessful

the no is not found in entire list

/\*Write a program in C++ that first initialises an array of five numbers such as short/float/double. The program must add these numbers by traversing this array with a pointer. The o/p should print the starting address of an array with the size of number (n bytes)to what it points. The program must also print the sum and pointer address with the addition of every number as well as the ending address \*/

```
#include<iostream.h>
#include<conio.h>
void main()
{
clrscr();
const size=5;
short a[size]={19,38,57,76,95};
cout<<"Starting Address is:"<<a<<endl;
cout<<"Size of (short):"<<sizeof(short)<<endl;
short *end=a+size;
short sum=0;
cout<<"The traversed array is:\n\n";
for(short*p=a;p<end;p++)
{
sum=sum+*p;
cout<<"\t p="<<p<<endl;
cout<<"\t *p="<<*p<<endl;;
cout<<"\t sum="<<sum<<endl;
}
cout<<"\nEnding Address:"<<end<<endl;
getch();
}
```

Starting Address is:0x8fc7ffea

Size of (short):2

The traversed array is:

p=0x8fc7ffea

\*p=19

sum=19

p=0x8fc7ffec

\*p=38

sum=57

p=0x8fc7ffee

\*p=57

sum=114

p=0x8fc7fff0

\*p=76

sum=190

p=0x8fc7fff2

\*p=95

sum=285

Ending Address:0x8fc7fff4

/\*Write a program in C++ that first initialises an array of five numbers such as short/float/double.The program must add these numbers by traversing this array with a pointer. The o/p should print the starting address of an array with the size of number (n bytes)to what it points. The program must also print the sum and pointer address with the addition of every number as well as the ending address \*/

```
#include<iostream.h>
#include<conio.h>
void main()
{
clrscr();
const size=5;
float a[size]={0.3,1.2,0.8,2.2,3.4};
cout<<"Starting Address is:"<<a<<endl;
cout<<"Size of (float):"<<sizeof(float)<<endl;
float *end=a+size;
float sum=0;
cout<<"The traversed array is:\n\n";
for(float*p=a;p<end;p++)
{
sum=sum+*p;
cout<<"\tp="<<p<<endl;
cout<<"\t*p="<<*p<<endl;;
cout<<"\tsum="<<sum<<endl;
}
cout<<"\nEnding Address:"<<end<<endl;
getch();
}
```

Starting Address is:0x8f7effdc

Size of (float):4

The traversed array is:

p=0x8f7effdc

\*p=0.3

sum=0.3

p=0x8f7effe0

\*p=1.2

sum=1.5

p=0x8f7effe4

\*p=0.8

sum=2.3

p=0x8f7effe8

\*p=2.2

sum=4.5

p=0x8f7effec

\*p=3.4

sum=7.9

Ending Address:0x8f7efff0



/\*Write a program in C++ that first initialises an array of five numbers such as short/float/double.The program must add these numbers by traversing this array with a pointer. The o/p should print the starting address of an array with the size of number (n bytes)to what it points. The program must also print the sum and pointer address with the addition of every number as well as the ending address \*/

```
#include<iostream.h>
#include<conio.h>
void main()
{
clrscr();
const size=5;
double a[size]={1.11,2.22,3.33,4.44,5.55};
cout<<"Starting Address is:"<<a<<endl;
cout<<"Size of (double):"<<sizeof(double)<<endl;
double *end=a+size;
double sum=0;
cout<<"The traversed array is:\n\n";
for(double*p=a;p<end;p++)
{
sum=sum+*p;
cout<<"\tp="<<p<<endl;
cout<<"\t*p="<<*p<<endl;;
cout<<"\tsum="<<sum<<endl;
}
cout<<"\nEnding Address:"<<end<<endl;
getch();
}
```

Starting Address is:0x8f7effc4

Size of (double):8

The traversed array is:

p=0x8f7effc4

\*p=1.11

sum=1.11

p=0x8f7effcc

\*p=2.22

sum=3.33

p=0x8f7effd4

\*p=3.33

sum=6.66

p=0x8f7effdc

\*p=4.44

sum=11.1

p=0x8f7effe4

\*p=5.55

sum=16.65

Ending Address:0x8f7effec

/\*Write a program in C++ that first initialises an array of five numbers such as short/float/double.The program must add these numbers by traversing this array with a pointer. The o/p should print the starting address of an array with the size of number (n bytes)to what it points. The program must also print the sum and pointer address with the addition of every number as well as the ending address \*/

```
#include<iostream.h>
#include<conio.h>
void main()
{
clrscr();
const size=5;
long double a[size]={150.1,300.2,450.3,500.4,550.5};
cout<<"Starting Address is:"<<a<<endl;
cout<<"Size of (long double):"<<sizeof(long double)<<endl;
long double*end=a+size;
long double sum=0;
cout<<"The traversed array is:\n\n";
for(long double*p=a;p<end;p++)
{
sum=sum+*p;
cout<<"\t p="<<p<<endl;
cout<<"\t *p="<<*p<<endl;;
cout<<"\t sum="<<sum<<endl;
}
cout<<"\nEnding Address:"<<end<<endl;
getch();
}
```

Starting Address is:0x8f7dffb8

Size of (long double):10

The traversed array is:

p=0x8f7dffb8

\*p=150.1

sum=150.1

p=0x8f7dffc2

\*p=300.2

sum=450.3

p=0x8f7dffcc

\*p=450.3

sum=900.6

p=0x8f7dffd6

\*p=500.4

sum=1401

p=0x8f7dffe0

\*p=550.5

sum=1951.5

Ending Address:0x8f7dffe8

```
/*Write a function in C++ to i/p the given string (including spaces)
and reverses it using function which locates the end of the string and
swap the first character with the last character, the second character
with the second last character and so on */
#include<iostream.h>
#include<conio.h>
#include<string.h>
void swap(char *rev);
void main()
{
clrscr();
char str[80];
cout<<"\nEnter string\n";
cin.getline(str,80);
cout<<"\nThe original string is"<<str;
swap(str);
cout<<"\nAfter swapping string is"<<str;
getch();
}
void swap(char *rev)
{
strrev(rev);
}
```

Enters string

india is my country

The original string is=india is my country

After swapping string is=yrtnuoc ym si aidni

/\*Write a C++ pgrogram which defineds a node class each of whose objects contains an intege data number and next pointer.The program should allow the user to create a linked list in reverse order and then traverses the list printing each data value \*/

```
#include<iostream.h>
```

```
#include<conio.h>
```

```
class node
```

```
{  
public:node(int d,node*p=0):data(d),next(p)
```

```
{
```

```
}
```

```
int data;
```

```
node*next;
```

```
};
```

```
void main()
```

```
{
```

```
clrscr();
```

```
int n;
```

```
node*p;
```

```
node*q;
```

```
cout<<"\nenter elements in linked list";
```

```
cout<<"\nfor last node press control z?"<<endl;
```

```
while(cin>>n)
```

```
{
```

```
p=new node(n,q);
```

```
q=p;
```

```
}
```

```
cout<<"\n The traversed linked list in reverse order"<<endl;
```

```
for(;p->next;p=p->next)
```

```
{
```

```
cout<<p->data<<"->";
```

```
}
```

```
cout<<"X\n";
```

```
getch();
```

```
}
```

enter elements in linked list

for last node press control z?

1

5

6

7

3

9

10

^Z

The traversed linked list in reverse order

10->9->3->7->6->5->X



```

/*Write a C++ with ratio class using member functions like assign()
function to initialise its member data(integer numerator and denominator),
convert()function converts the ratio into double, invert() function to get the
inverse of the ratio and print() function to print the ratio and its reciprocal*/
#include<iostream.h>
#include<conio.h>
class ratio
{
    int num,den;
    public:void assign()
    {
        cout<<"\nEnter numerator";
        cin>>num;
        cout<<"\nEnter denominator";
        cin>>den;
        cout<<"\nRatio and Reciprocal is";
    }
    public:void convert()
    {
        double c;
        c=((num/den));
        cout<<"\nThe double conversion is"<<c;
    }
    public:void invert()
    {
        int temp;
        temp=num;
        num=den;
        den=temp;
        cout<<"\nThe inversion of ratio and reciprocal=";
    }
    public:void print()
    {
        cout<<num<<"/"<<den;
    }
};
void main()
{
    clrscr();
    ratio x;
    x.assign();
    x.print();
    x.convert();
    x.invert();
    x.print();
    getch();
}

```

Enter numerator

5

Enter denominator

2

Ratio and Reciprocal is  $5/2$

The double conversion is  $=2$

The inversion of ratio and reciprocal  $=2/5$

/\* Implement a circle class in C++. Each object of this class will represents a circle, storing its radius and x and y co-ordinates of its centre as floats. Include a default constructor and access function as area() and circumference(). The program must print the co-ordinates with radius, area and circumference of the circle \*/

```
#include<iostream.h>
#include<conio.h>
class circle
{
float r,x,y,cent,ar,circum;
public:circle()
{
cout<<"\nThis is default constructor";
}
public:void area()
{
cout<<"\nEnter x and y co-ordinates";
cin>>x>>y;
cout<<"\nThe x cordinate of circle is=x"<<x;
cout<<"\nThe y cordinate of circle is=y"<<y;
cent=((x+y)/2);
cout<<"\ncenter of co-ordinate"<<cent;
cout<<"\nEnter radius";
cin>>r;
cout<<"\nThe radius of circle is="<<r;
ar=3.14*r*r;
cout<<"\nThe area of circle="<<ar;
}
public:void circumference()
{
circum=2*3.14*r;
cout<<"\nThe circumference is="<<circum;
}
};
void main()
{
clrscr();
circle s;
s.area();
s.circumference();
getch();
}
```

This is default constructor

Enter x and y co-ordinates

3

4

The x cordinate of circle is= $x=3$

The y cordinate of circle is= $y=4$

center of co-ordinate3.5

Enter radius

3

The radius of circle is= $3$

The area of circle= $28.26$

The circumference is= $18.84$

/\*Write a program in C++ that initialises a ratio class with no parameter as a default constructor. Add a constructor having no parameters that initialises the declared object with the default integer values -- and -- Add another constructor that has one integer parameter. This constructor must initialises the object to be the fractional equivalent of that integer. The o/p should print the ratio as per the constructor\*/

```
#include<iostream.h>
#include<conio.h>
class ratio
{
public:int num,den;
public:ratio()
{
    num=0;
    den=0;
}
public:ratio(int n)
{
    num=n;
    den=1;
}
public:void print()
{
    cout<<num<<"/"<<den;
}
};
void main()
{
    clrscr();
    ratio x(9);
    cout<<"\nThe ratio x is=";
    x.print();
    ratio y(11);
    cout<<"\nThe ratio y is=";
    y.print();
    ratio z(33);
    cout<<"\nThe ratio z is=";
    z.print();
    getch();
}
```

The ratio x is=9/1  
The ratio y is=11/1  
The ratio z is=33/1

/\*Write a C++ program that initialises a ratio class with no parameters as a default constructor.The program must print the message "OBJECT IS BORN" during initialisation. It should display the message "NOW X IS ALIVE" When the first member function ratio x called. The program must display "OBJECT DIES", when the destructor is called for object when it reached the end of its scope\*/

```
#include<iostream.h>
#include<conio.h>
class ratio
{
public:ratio()
{
cout<<"\nAN OBJECT IS BORN";
float num,den,c;
num=22;
den=7;
c=num/den;
cout<<"\nThe ratio is="<<num<<"/"<<den<< "="<<c;
}
public::~ratio()
{
cout<<"\n At the end of scope";
cout<<"\nAN OBJECT IS DIES";
}
};
void main()
{
clrscr();
ratio x;
{
cout<<"\n NOW X IS ALIVE";
}
ratio y;
{
cout<<"\n NOW Y IS ALIVE";
}
getch();
}
```

AN OBJECT IS BORN  
The ratio is= $22/7=3.142857$   
NOW X IS ALIVE  
AN OBJECT IS BORN  
The ratio is= $22/7=3.142857$   
NOW Y IS ALIVE  
At the end of scope  
AN OBJECT IS DIES  
At the end of scope  
AN OBJECT IS DIES



```

/*write a program in C++ with a complex constructor to adds the given
two complex numbers A=--- and B---. The program should prints the given
complex numbers and their sum */
#include <iomanip.h>
#include <iostream.h>
#include <conio.h>
class complex
{
private:
double real;
double imag;
public:
complex(double = 0.0, double = 0.0);
void add(complex, complex);
void show();
};
complex :: complex (double x, double y)
{
real = x;
imag = y;
}
void complex :: add (complex c1, complex c2)
{
real = c1.real + c2.real;
imag = c1.imag + c2.imag;
}
void complex :: show()
{
if (imag > 0)
cout << real << "+" << imag << "i" << endl;
else
cout << real << imag << "i" << endl;
}
int main ( )
{
clrscr ( );
complex c1 (6, 9);
complex c2 (5,3);
complex c3;
c3.add (c1, c2);
c3.show ( );
getch ( );
return 0;
}

```

$$11+12i$$

/\*write a program in C++ with a complex constructor to adds the given two complex numbers A=--- and B---. The program should prints the given complex numbers and their sum \*/

```
#include <iomanip.h>
#include <iostream.h>
#include <conio.h>
class complex
{
float real,img;
public:complex()
{
real=0;
img=0;
}
complex(float re, float im)
{
real=re;
img=im;
}
void show()
{
cout<<"\nreal number="<<real;
cout<<"\nimaginary number="<<img;
}
complex sum(complex s)
{
complex total;
total.real=real+s.real;
total.img=img+s.img;
return(total);
}
};
void main()
{
clrscr();
complex x1(7.2,8.3);
complex x2(8.3,9.2);
complex x3;
x3=x1.sum(x2);
cout<<"\nThe first complex number is=";
x1.show();
cout<<"\nThe second complex number is=";
x2.show();
cout<<"\nThe sum=";
x3.show();
getch();
}
```

The first complex number is=  
real number=7.2  
imaginary number=8.3  
The second complex number is=  
real number=8.3  
imaginary number=9.2  
The sum=  
real number=15.5  
imaginary number=17.5

```

/*Write a program in C++ to implements the addition and division operator for the ratio
class.Hence it prints the given two ratios x and y and their sum(x+y) and division(x/y)*/
#include<iostream.h>
#include<conio.h>
class ratio
{
float x,y;
public:ratio()
{
}
ratio(float real,float imag)
{
x=real;
y=imag;
}
ratio operator+(ratio);
ratio operator/(ratio);
void display();
};
ratio ratio::operator+(ratio c)
{
ratio temp;
temp.x=x+c.x;
temp.y=y+c.y;
return(temp);
}
ratio ratio::operator/(ratio c)
{
ratio temp;
temp.x=x/c.x;
temp.y=y/c.y;
return(temp);
}
void ratio::display()
{
cout<<" x="<<x<<" y="<<y<<"\n";
}
void main()
{
clrscr();
ratio c1,c2,c3,c4;
c1=ratio(2.5,3.5);
c2=ratio(1.6,2.7);
c3=c1+c2;
c4=c1/c2;
cout<<"c1=";
c1.display();
cout<<"c2=";
c2.display();
cout<<"\nThe sum is= ";
cout<<"c3=";
c3.display();
cout<<"\nThe division is= ";
cout<<"c4=";
c4.display();
getch();
}

```

c1= x=2.5 y=3.5

c2= x=1.6 y=2.7

The sum is= c3= x=4.1 y=6.2

The division is= c4= x=1.5625 y=1.296296

```

#include<iostream.h>
#include<conio.h>
#include<math.h>
class polar
{
float angle,r,x,y;
public:      void getdata()
{
cout<<"\nEnter angle";
cin>>angle;
cout<<"\nEnter radius";
cin>>r;
}
void convert()
{
x=r*cos(angle);
y=r*sin(angle);
}
void putdata()
{
cout<<"\nThe polar co-ordinate of points are"<<angle;
cout<<"\nThe rectangular co-ordinate points are"<<"x="<<x<<" y="<<y;
}
};
class rectangle
{
float x,y,a,r;
public: void getdata()
{
cout<<"\nEnter x and y co-ordinates";
cin>>x>>y;
}
void convert()
{
a=atan(x/y);
r=sqrt(x*x+y*y);
}
void putdata()
{
cout<<"\nRectangle co-ordinates are=";
cout<<"x="<<x<<" y="<<y;
cout<<"\nPolar angle="<<a<<" radius="<<r;
}
};
void main()
{
clrscr();
polar p;
p.getdata();
p.convert();
p.putdata();
rectangle q;
q.getdata();
q.convert();
q.putdata();
getch();
}

```

Enters angle 7

Enters radius 5

The polar co-ordinate of points are = 7

The rectangular co-ordinate points are  $x=3.769511$   $y=3.284933$

Enters x and y co-ordinates 2

2

Rectangle co-ordinates are  $x=2$   $y=2$

Polar angle = 0.785398 radius = 2.828427



```

#include<iostream.h>
#include<conio.h>
#include<math.h>
class polar
{
float angle,r,x,y;
public:
void getdata(float a,float b)
{
angle=a;
r=b;
}
void convert()
{
x=r*cos(angle);
y=r*sin(angle);
}
void putdata()
{
cout<<"\n THE POLAR CORDINATES OF THE POINT
ARE:"<<angle<<"<<endl;
cout<<"\n THE RECTANGULAR CORDINATES OF THE POINT
ARE:"<<x<<"<<y<<endl;
} };
class rectangle
{
float x,y,a,r;
public:
void getdata(float c,float b)
{
x=c;
y=b;
}
void convert()
{
a=atan(x/y);
r=sqrt(x*x+y*y);
}
void putdata()
{
cout<<"\n THE RECTANGULAR CO-ORDINATES OF THE";
cout<<"\n POINTS ARE"<<"x"<<x<<"y"<<y<<endl;
cout<<"\n THE POLAR CO-ORDINATES OF THE POINTS ARE";
cout<<"angle"<<a<<"radius"<<r<<endl;
} };
void main ()
{ clrscr();
polar p;
p.getdata(2.4,4.6);
p.convert();
p.putdata();
rectangle r;
r.getdata(2.4,4.6);
r.convert();
r.putdata();
getch();
}

```

THE POLAR CORDINATES OF THE POINT ARE:2.4

THE RECTANGULAR CORDINATES OF THE POINT ARE:-3.3920113.10713

THE RECTANGULAR CO-ORDINATES OF THE  
POINTS AREx2.4y4.6

THE POLAR CO-ORDINATES OF THE POINTS  
AREangle0.480887radius5.188449

```

#include<iostream.h>
#include<conio.h>
class student
{
int roll;
public: void getroll()
{
cout<<"\nEnter the roll number of student";
cin>>roll;
};
class test: public student
{
public: int m1,m2;
public: void getmark()
{
cout<<"\nEnter the marks of two subjects";
cin>>m1>>m2;
};
class sport
{
public: int marksp;
public: void getsport()
{
cout<<"\nEnter the weightage marks of sport";
cin>>marksp;
};
class result: public test, public sport
{
int tot;
float per;
public: void display()
{
tot=m1+m2+marksp;
cout<<"\nTotal marks="<<tot;
per=tot/3;
cout<<"\nPercentage="<<per;
};
void main()
{
clrscr();
result s1;
s1.getroll();
s1.getmark();
s1.getsport();
s1.display();
getch();
}

```

Enters the roll number of student  
5

Enters the marks of two subjects  
63  
52

Enters the weightage marks of sport25

Total marks=140  
Percentage=46

```

#include<iostream.h>
#include<conio.h>
#include<string.h>
class person
{
public: char *name;
    person(char *s)
    {
        name=new char[strlen(s)+1];
        strcpy(name,s);
    }
    virtual void print()
    {
        cout<<"My name is"<<name<<endl;
    }

};

class student :public person
{
float rno;
public:
    student(char *s,float r):person(s),rno(r)
    {
    }
    void print()
    {
        cout<<"My name is"<<name<<"\nMy Roll Number="<<rno;
    }

};

void main()
{
    clrscr();
    person *p;
    person x("BOB");
    p=&x;
    p->print();
    student y("TOM",101);
    p=&y;
    p->print();
    getch();
}

```

My name is=BOB  
My name is=TOM  
My Roll Number=101

```

//program of name of country by using file handling
#include<iostream.h>
#include<conio.h>
#include<fstream.h>
void main()
{
clrscr();
ofstream fout;
fout.open("country");
fout<<"\nIndia";
fout<<"\nPakistan";
fout<<"\nEngland";
fout<<"\nSothafrica";
fout<<"\nAustralia";
fout.close();
fout.open("capital");
fout<<"\nDelhi";
fout<<"\nLahor";
fout<<"\nLondon";
fout<<"\nCaptown";
fout<<"\nSidany";
fout.close();
const int n=80;
char line[n];
ifstream fin;
fin.open("country");
cout<<"\ncontent of country file\n";
while(fin.eof()!=0)
{
fin.getline(line,n);
cout<<"\n"<<line;
}
fin.close();
fin.open("capital");
cout<<"\nContents of capital file\n";
while(fin.eof()!=0)
{
fin.getline(line,n);
cout<<"\n"<<line;
}
fin.close();
getch();
}

```

content of country file

India

Pakistan

England

Sothafrica

Australia

Contents of capital file

Delhi

Lahor

London

Captown

Sidany