

## Program-1

### Aim

Write a program to print Hello.

```
#include <iostream.h>
#include <conio.h>
int main()
{
    clrscr();
    cout << "Hello";
    getch();
    return 0;
}
```

## Program-2

### Aim

Write a program to print your name and city.

```
#include <iostream.h>
#include <conio.h>
int main()
{
    clrscr();
    cout << "My name is Gaurav\n";
    cout << "My city is Jaipur";
    getch();
    return 0;
}
```

## Program - 3

### Aim

Write a program to scan any integer value.

```
#include <iostream.h>
#include <conio.h>
int main()
{
    clrscr();
    int a;
    cout << "enter any integer value";
    cin >> a;
    getch();
    return 0;
}
```

## Program - 4

Aim

Write a program to add two integer numbers.

```
#include <iostream.h>
#include <conio.h>
void main()
{
    clrscr();
    int a, b, sum;
    cout << "Enter the value of a : ";
    cin >> a;
    cout << "Enter the value of b : ";
    cin >> b;
    sum = a + b;
    cout << "The sum of a and b is " << sum;
    getch();
}
```

## Program - 5

### Aim

Write a program to swap two numbers.

```
# include <iostream.h>
# include <conio.h>
int main ()
{
    int a, b, c ;
    clrscr ();
    cout << "Enter the value a" ;
    cin >> a ;
    cout << "Enter the value b" ;
    cin >> b ;
    cout << "the value of a and b is " << a << ", " << b ;
    c = a ;
    a = b ;
    b = c ;
    cout << "\n" << a << " " << b ;
    getch () ;
    return 0 ;
}
```

## Program - 6

### Aim

Write a program to find if a person is voter or not using simple if else statement.

```
#include <iostream.h>
#include <conio.h>
int main()
{
    clrscr();
    int age;
    cout << "Enter the age of person";
    cin >> age;
    if (age >= 18)
    {
        cout << "Person is eligible for voting";
    }
    else
    {
        cout << "Person is not eligible for voting";
    }
    getch();
    return 0;
}
```

## Program - 7

### Aim

Write a program to find position of a student in his/her class.

```
#include <iostream.h>
#include <conio.h>
void main ()
{
    clrscr();
    int marks;
    cout << "Enter the marks of Student";
    cin >> marks;
    if (marks >= 60 && marks <= 100)
    {
        cout << "1st division";
    }
    else if (marks >= 45 && marks < 60)
    {
        cout << "2nd devision";
    }
    else if (marks >= 36 && marks < 45)
    {
        cout << "3rd devision";
    }
    else if (marks < 36)
```

```
cout << "Fail";
```

{

else

{

```
cout << "Invalid value";
```

{

```
getch();
```

{



## Program - 8

### Aim

Write a program to find character is vowel or not using switch case

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

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

```
void main ()
```

```
{
```

```
clrscr ();
```

```
char alpha;
```

```
cout << "Enter any alphabet";
```

```
cin >> alpha;
```

```
switch (alpha)
```

```
{
```

```
Case 'a': cout << "a is vowel";
```

```
break;
```

```
Case 'b': cout << "e is vowel";
```

```
break;
```

```
case 'c': cout << "i is vowel";
```

```
break;
```

```
case 'd': cout << "o is vowel";
```

```
break;
```

```
case 'e': cout << "u is vowel";
```

```
break;
```

```
default: cout << alpha << "is a consonant";
```

```
break; }
```

```
getch();
```

```
?
```

## Program-9

### Aim

Write a program to print table of any number using for loop.

```
#include <iostream.h>
#include <conio.h>
void main()
{
    clrscr();
    int i,s,n;
    cout << "Enter the number";
    cin >> n;
    for (i=1; i<=10; i++)
    {
        s = n * i;
        cout << n << "*" << i << "=" << s << endl;
    }
    getch();
}
```

## Program-10

### Aim

Write a program to print series  $1+2+3+\dots+n$  using for loop also find its sum.

```
#include <iostream.h>
#include <conio.h>
void main()
{
    clrscr();
    int i, num, sum=0;
    cout << "Enter the number of terms";
    cin >> num;
    for(i=1 ; i<=num ; i++)
    {
        cout << i << "+";
        sum = sum + i;
    }
    cout << "Sum of above series is" << sum;
    getch();
}
```

## Program - 11

### Aim

Write a program to print factorial of any given number.

```
# include <iostream.h>
# include <conio.h>
void main()
{
    clrscr();
    int i, n, f = 1;
    cout << "Enter a positive integer";
    cin >> n;
    for (int i=1; i<=n; i++)
    {
        f = f * i;
    }
    cout << "factorial of " << n << "=" << f;
    getch();
}
```

## Program - 12

### Aim

Write a program to print following pattern

\*

\* \*

\* \* \*

\* \* \* \*

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

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

```
void main()
```

```
{
```

```
    clrscr();
```

```
    int i, j, num;
```

```
    cout << "Enter the number of lines";
```

```
    cin >> num
```

```
    for (i=1 ; i<=num ; i++)
```

```
{
```

```
    for (j=1 ; j<i ; j++)
```

```
{
```

```
        cout << "*";
```

```
}
```

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

```
}
```

```
        getch();
```

```
}
```

## Program-13

### Aim

Write a program to print the following pattern.

```

* 
* *
* * *
* * * *

```

```

#include <iostream.h>
#include <conio.h>
void main ()
{
    clrscr();
    int i, j, k, num;
    cout << "Enter the number of lines";
    cin >> num;
    for (i=1; i<=num; i++)
    {
        for (j=1; j<=(num-i); j++)
        {
            cout << " ";
        }
        for (k=1; k<=i; k++)
        {
            cout << "*" << " ";
        }
        cout << "\n";
    }
    getch();
}

```

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## Program - 14

Aim

WAP to print 10, 20, 30 --- 100 using while loop.

# include &lt;iostream&gt;

using namespace std;

int main()

{

int i=1;

while (i&lt;=10)

{

int j=10;

j=j\*i;

cout &lt;&lt; j &lt;&lt; "\n";

i++;

{

return 0;

{

## Program - 15

Aim

WAP to print fibonacci series using while loop.

```
#include <iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
int i=2, n1=0, n2=1, n3, m;
```

```
Cout << "Enter a number (at least 1): ";
```

```
cin >> m;
```

```
while (i < m)
```

```
{
```

```
    n3 = n1 + n2;
```

```
    cout << n3 << " ";
```

```
    n1 = n2;
```

```
    n2 = n3;
```

```
    i++;
```

```
}
```

```
return 0;
```

```
}
```

## Program - 16

Aim

WAP to print all armstrong number between 1 to 1000 using Do-while loop.

```
# include <iostream>
```

```
using namespace std;
```

```
int main();
```

```
{
```

```
int n1, n2, n3, sum, num = 1;
```

```
do
```

```
{
```

```
n1 = num % 10 ;
```

```
n2 = (num % 100 - n1) / 10 ;
```

```
n3 = (num % 1000 - n2 * 100) / 100 ;
```

```
sum = ((n1 * n1 * n1) +  
(n2 * n2 * n2) +  
(n3 * n3 * n3));
```

```
if (sum == num)
```

```
{
```

```
cout << num << " ";
```

```
}
```

```
++ num;
```

{

while (num &lt;= 1000);

return 0;

}

~~C~~

## Program - 17

### Aim

WAP to display following pattern using Do while loop  
 zat ybt xcct---+az

# include <iostream>

using namespace std;

int main ()

{

char i='a', j='z';

do

{

cout << j << i << "+";

--j;

++i;

}

while (j>= 'a');

return 0;

}

1  
 1 2  
 1 2 3  
 1 2 3 4 5

B

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## Program - ?

### Aim

WAP to print the following pattern using while loop.

```

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

```

```

# include <iostream.h>
# include <conio.h>
void main()
{
    clrscr();
    int n; i=1, j=1;
    cout << "Enter number of lines";
    cin >> n;
    while (i <= n)
    {
        while (j <= i)
        {
            cout << j << " ";
            j++;
        }
        j=1;
        i++;
        cout << "\n";
    }
}

```

3  
getch();  
3

# Program - 7

## Aim

Write a Program to print numbers from 1 till 1.

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

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

```
void main ()
```

```
{
```

```
clr scr();
```

```
int i = 5;
```

```
cout << "The standard is ";
```

```
for (i=5 ; i>=1 ; i--)
```

```
{
```

```
cout << i << ", ";
```

```
}
```

```
getch();
```

```
}
```

## Program - 20

Aim

WAP to find min. and max. element of an array.

```
#include <iostream>
#include <algorithm>
```

using namespace std;

```
int main()
```

{

```
int arr[] = {4, 2, 1, 6, -8, 5};
```

```
int *min = std::min_element(std::begin(arr), std::end(arr));
```

```
int *max = std::max_element(std::begin(arr), std::end(arr));
```

```
std::cout << "The min element is" << *min << std::endl;
```

```
std::cout << "The max element is" << *max << std::endl;
```

```
return 0;
```

}

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Explanation

## Program - ?

### Aim

WAP to search an element in an array.

```
#include <iostream>
using namespace std;
```

```
int main()
```

```
{
```

```
int arr[10], i, num, n, cnt = 0, pos;
```

```
cout << "\n Enter Array Size:";
```

```
cin >> n;
```

```
cout << "\n Enter Array Elements: \n";
```

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

```
{
```

```
cout << " ";
```

```
cin >> arr[i];
```

```
}
```

```
cout << "\n Enter Element to be Searched:";
```

```
cin >> num;
```

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

```
{
```

```
if (arr[i] == num)
```

```
{
```

```
cnt = 1;
```

```
pos = i + 1;
```

```
break;
```

```
}
```

{

if (cnt == 0)

{

else

{

cout &lt;&lt; "Element not found!";

{

return 0;

{

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## Program-22

Aim

WAP to insert an element in 2D array.

#include <iostream>  
using

int main ()

{

int arr [3][3];

for (int i=0 ; i<=2 ; i++)

{

for (int j=0 ; j<=2 ; j++)

{

cout << "Enter element : arr[" << i << "] [" << j << "] :" << endl;

cin >> arr [i][j];

}

}

for (int i=0 ; i<=2 ; i++)

{

for (int j=0 ; j<=2 ; j++)

{

cout << arr [i][j] << " ";

}

cout << endl;

}

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return 0;  
}



## Program-23

Aim

WAP to add 2 matrices.

```
#include <iostream>
using namespace std;
```

```
int main ()
```

```
{
```

```
int arr1[3][3], arr2[3][3], arr3[3][3];
```

```
for (int i=0; i<=2; i++)
```

```
{
```

```
for (int j=0; j<=2; j++)
```

```
{
```

```
cout << "Enter element: arr1[" << i << "][" << j << "]: " << endl;
```

```
cin >> arr1[i][j];
```

```
}
```

```
}
```

```
for (int i=0; i<=2; i++)
```

```
{
```

```
for (int j=0; j<=2; j++)
```

```
{
```

```
cout << "Enter element: arr2[" << i << "][" << j << "]: " << endl;
```

```
cin >> arr2[i][j];
```

```
}
```

{

for (int i=0 ; i&lt;=2 ; i++)

{

for (int j=0 ; j&lt;=2 ; j++)

{

arr 3[i][j] = arr 1[i][j] + arr 2[i][j];

cout &lt;&lt; arr 3[i][j] &lt;&lt; " ";

{

cout &lt;&lt; endl;

{

return 0;

{

## Program - 24

Aim

WAP to transpose a matrix.

```
#include <iostream>
using namespace std;
```

```
int main ()
```

```
{
```

```
int a [10][10], transpose [10][10], row, column, i, j;
```

```
cout << "Enter rows and columns of matrix : ";
cin >> row >> column;
```

```
cout << "\nEnter elements of matrix : " << endl;
```

```
// storing matrix elements
```

```
for (int i = 0; i < row; ++i)
```

```
{
```

```
for (int j; j < column; ++j)
```

```
{
```

```
cout << "Enter element a" << i + 1 << j + 1 << ":";
```

```
cin >> a [i][j];
```

```
}
```

```
}
```

```
// Printing the matrix
```

```

cout << "\n Entered matrix :" << endl;
for (int i=0 ; i<row ; ++i)
{
    for (int j=0 ; j<column ; ++j)
    {
        cout << " " << a[i][j];
    }
}

```

```

if (j == column - 1)
    cout << endl << endl;
}
}

```

//computing transpose of the matrix

```

for (int i=0 ; i<row ; ++i)
{
    for (int j=0 ; j<column ; ++j)
    {
        transpose[j][i] = a[i][j];
    }
}

```

//Printing the transpose

```

cout << "\n Transpose of Matrix :" << endl;
for (int i=0 ; i<column ; ++i)
{
    for (int j=0 ; j<row ; ++j)
    {
        cout << " " << transpose[i][j];
    }
}

```

```
if (j == row - 1)  
cout << endl << endl;  
}  
return 0;
```

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## Program - 25

Aim

WAP to display the following information

Person Name

Person Age

Salary

Using structure

```
# include <iostream>
using namespace std;
```

```
struct person
```

```
{
```

```
string name;
```

```
int age;
```

```
float salary;
```

```
};
```

```
int main ()
```

```
{
```

```
struct person p1;
```

```
cout << "Enter Name:" << endl;
```

```
cin >> p1.name;
```

```
cout << "Enter Age:" << endl;
```

```
cin >> p1.age;
```

```
cout << "Enter Salary:" << endl;
```

```
cin >> p1.salary;
```

```
cout << "Name: " << PI.name << endl;  
cout << "Age: " << PI.age << endl;  
cout << "Salary: " << PI.salary << endl;
```

```
return 0;  
}
```



## Program - 26

Aim

WAP to add, subtract and modify 2 complex nos.  
using structure to function.

```
# include <iostream>
# include <math.h>
using namespace std;
```

```
struct complex
```

```
{  
    float rel;  
    float img;  
}; s1, s2;
```

```
int main()
```

```
{
```

```
    float a, b;  
    cout << "Enter real and imaginary part of 1st complex  
number:";
```

```
    cin >> s1.rel >> s1.img;
```

```
    cout << "Enter real and imaginary part of 2nd complex  
number:";
```

```
    cin >> s2.rel >> s2.img;
```

// Addition

```
a = (s1.rel) + (s2.rel);
```

```
b = (s1.img) + (s2.img);
cout << "\nAddition: " << ("<<a<<") << "+" << ("<<b<<")
                           " << "i";
```

// Subtraction

```
a = (s1.rel) - (s2.rel);
```

```
b = (s1.img) - (s2.img);
```

```
cout << "\nSubtraction: " << ("<<a<<") << "+" << ("<<b<<")
                           " << "i";
```

// Multiplication

```
a = ((s1.rel) * (s2.rel));
```

```
b = ((s1.img) * (s2.rel));
```

~~cout << "\nMultiplication: " << ("<<a<<") << "+" << ("<<b<<")
 " << "i";~~

return 0;

}

## Program - 27

Aim

WAP to declare and call a function.

```
#include <iostream>
using namespace std;
```

```
void function()
```

```
{
```

```
    cout << "Function called!" ;
```

```
}
```

```
int main()
```

```
{
```

```
    function();
```

```
    return 0;
```

```
}
```

## Program-28

Aim

WAP to find area and perimeter of a circle using function.

```
#include <iostream>
using namespace std;
float area (float);
float circum (float);
int main()
{
```

```
    int radius;
    cout << "Enter Radius of Circle : ";
    cin >> radius;
    cout << "Area of Circle : " << area (radius);
    cout << "Circumference of Circle : " << circum (radius);
}
```

```
float area (float radius)
{
```

```
    return (3.14 * radius * radius);
}
```

```
float circum (float radius)
{
```

```
    return (2 * 3.14 * radius);
}
```

## Program - 29

Aim

WAP to convert centigrade to fahrenheit using function

```
# include <iostream>
```

```
using namespace std
```

```
float CelsiusToFahrenheit(float);
```

```
int main()
```

```
{
```

```
float celsius, fahrenheit;
```

```
cout << "Enter the Temperature in Celsius:";
```

```
cin >> celsius;
```

```
fahrenheit = CelsiusToFahrenheit(celsius);
```

```
cout << endl << celsius << "\370C = " << fahrenheit << "\370F";
```

```
cout << endl;
```

```
return 0;
```

```
}
```

```
float CelsiusToFahrenheit(float celsius)
```

```
{
```

```
return ((celsius * 1.8) + 32);
```

```
}
```

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## Program - 30

Aim

WAP to find greater number using inline function.

```
#include <iostream>
using namespace std;
```

```
inline int max (int x, int y)
```

```
{
```

```
if (x > y)
```

```
return x;
```

```
else
```

```
return y;
```

```
}
```

```
int main ()
```

```
{
```

```
int a, b;
```

```
cout << "Enter the first number:";
```

```
cin >> a;
```

```
cout << "Enter the second number:";
```

```
cin >> b;
```

```
cout << "The maximum number is " << max (a, b);
```

```
}
```

## Program-31

Aim

WAP to swap 2 no. using call by value.

```
#include <iostream>
using namespace std;
```

```
void swap (int, int);
int main ()
```

S

~~int a, b;~~

~~cout << "Enter Value of A: ";~~

~~cin >> a;~~

~~cout << "Enter Value of B: ";~~

~~cin >> b;~~

~~cout << "\n Before Swapping, Value of :: \n \t A = " << a << "\n \t B = " << b << "\n ";~~

Swap(a, b);

~~cout << "\n Outside Function After Swapping, Value of :: \n \t A = " << a << "\n \t B = " << b << "\n ";~~

?

void swap (int a, int b)

S

int c;

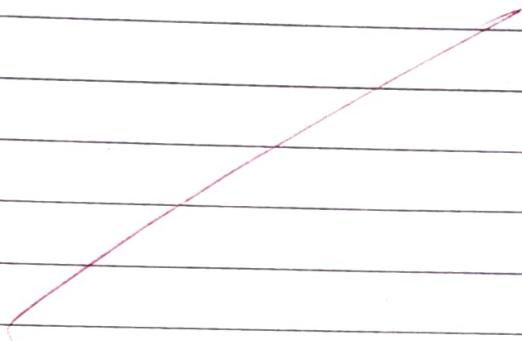
$c = a ;$

$a = b ;$

$b = c ;$

`cout << " \n Inside Function After Swapping Value of :: \n \t A = "`  
`<< a << "\t B = " << b << "\n";`

3



## Program - 32

Aim

WAP to swap 2 no. using call by reference.

```
#include <iostream>
using namespace std;
```

```
void swap (int & num1 , int & num2)
```

{

```
    int temp ;
    temp = num 1 ;
    num 1 = num 2 ;
    num 2 = temp ;
}
```

```
int main ()
```

{

```
    int a, b ;
    cout << "Enter a & b : ";
    cin >> a >> b ;
    cout << "\n Before swapping " << "\n A = " << a << "\n B = "
        << b << endl ;
    swap (a, b) ;

```

```
    cout << "\n After swapping " << "\n A = " << a << "\n B = "
        << b << endl ;
```

```
return 0;
```

}

## Program-33

### Aim

WAP to add 2 no's of 2 different class using the friend function.

```
#include <iostream>
using namespace std;
```

```
class Class B;
```

```
class Class A
{
```

```
public :
```

```
Class A(): num A(2) {}
```

```
private :
```

```
int num A;
```

```
friend int add (Class A, Class B);
```

```
};
```

~~Class Class B~~~~{~~~~public :~~~~Class B(): num B(3) {}~~

```
private :
```

```
int num B;
```

friend int add (Class A, Class B);  
};

int add (Class A object A, Class B object B)  
{  
return (Object A.numA, Object B, numB);  
}

int main()  
{  
Class A object A;  
Class B object B;  
cout << "Sum :" << add (Object A, Object B);

return 0;  
}

## Program - 34

Aim

WAP to print the length of a box using friend function.

```
#include <iostream>
using namespace std;
```

```
class Box
```

```
{
```

Private:

```
int length;
```

Public:

```
Box(): length(0) {}
```

```
friend int printLength(Box);
```

```
};
```

```
int printLength(Box b)
```

```
{
```

```
b.length += 50;
```

```
return b.length;
```

```
}
```

```
int main()
```

```
{
```

```
Box b;
```

```
cout << "Length of box: " << printLength(b) << endl;
```

```
return 0;
```

```
}
```

## Program - 35

Aim

WAP to access private members of another class using friend class.

```
#include <iostream>
class B;
```

Class A {

public:

Void show B (B &);

}

Class B {

private:

int b;

public:

B() { b = 0; }

friend void A :: show B (B and x);

}

void A :: show B (B & x)

{

std :: cout << "B :: b = " << x.b;

}

int main ()

{

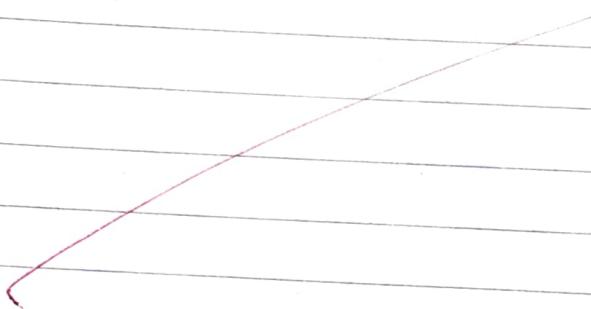
A a;

B x;

a. show B(x);

return 0;

}



## Program - 36

### Aim

WAP to add 2 distances in inch-feet by creating a class named "Add Distance".

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

```
class Add distance {
```

```
private:
```

```
int feet;
```

```
int inch;
```

```
public:
```

```
void set Distance();
```

```
void get Distance();
```

```
Add Distance add Distance (Add Distance d);
```

```
};
```

```
void Add Distance :: set Distance () {
```

```
cout << "feet:"; cin >> feet;
```

```
cout << "inches:"; cin >> inch;
```

```
}
```

```
void Add Distance :: get Distance () {
```

```
cout << "feet : " << feet;
```

```
cout << "inches : " << inches;
```

```
}
```

```
Add Distance Add Distance :: add Distance (Add Distance d) {
```

```
Add Distance dist;
```

```
dist.feet = feet + d.feet;  
dist.inch = inch + d.inch;  
if (dist.inch >= 12) {  
    dist.feet++;  
    dist.inch -= 12;  
}  
return dist;  
}
```

```
int main () {  
    Add Distance d1, d2, d3;
```

```
cout << "Enter length of Distance 1: " << endl;  
d1.set Distance();
```

```
cout << "Enter length of Distance 2: " << endl;  
d2.set Distance();
```

```
d3 = d1.add Distance(d2);
```

```
cout << "sum of Distance 1 and Distance 2: " << endl;  
d3.get Distance();  
return 0;  
}
```

## Program-37

Aim

WAP to calculate the volume of a box by creating a class named volume. Write an initialization list to initialize its length, breadth and height.

```
#include <iostream>
```

```
using namespace std;
```

```
class Volume
```

```
{
```

```
    int length, breadth, height;
```

```
public:
```

```
    Volume () : length(2), breadth(3), height(4)
```

```
{
```

```
}
```

```
    int printVolume ()
```

```
{
```

```
    return length * breadth * height;
```

```
}
```

```
};
```

```
int main ()
```

```
{
```

```
    Volume vm; cout << "Volume:";
```

```
    cout << vm.printVolume() << endl;
```

```
    return 0;
```

```
}
```

## Program - 38

### Aim

WAP to calculate area of rectangle using the concept of encapsulation.

```
#include <iostream>
using namespace std;
```

```
class Rectangle {
```

```
public:
```

```
int length;
```

```
int breadth;
```

```
Rectangle (int len, int brth) : length (len), breadth (brth) {}
```

```
int get Area () {
```

```
return length * breadth;
```

```
}
```

```
}
```

```
int main () {
```

```
Rectangle rect (9, 9);
```

```
cout << "Area = " << rect.get Area ();
```

```
return 0;
```

```
}
```

9/12/22 (2)

## Program-39

Aim

WAP to multiply two integer values using single level inheritance.

```
#include <iostream>
using namespace std;
```

class A

{

```
int a=4;
```

```
int b=5;
```

```
public:
```

```
int mul()
```

{

```
int c=a*b;
```

```
return c;
```

{

};

class B : private A

{

```
public:
```

```
void display()
```

{

```
int result = mul();
```

```
std::cout << "Multiplication of a and b is: " << result << std::endl;
```

{

};

int main()

{

B b;

b. display();

return 0;

}

## Program - 40

Aim

WAP to add 2 nos. after adding numbers find the cube using multilevel inheritance.

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

```
class A
```

```
{
```

```
int a=4
```

```
int b=5;
```

```
int c=a+b
```

```
public:
```

```
int c;
```

```
}
```

```
class B : public A
```

```
{
```

```
public:
```

```
int c;
```

```
}
```

```
class C : public B
```

```
{
```

```
public:
```

```
int cube()
```

```
{
```

```
cout << "The cube of the number is << c << = << (c*c*c)
```

```
}
```

```
}
```

```
}
```

```
int main ()
```

{

```
    object;
```

```
    object.cube();
```

}

## Program-41

Aim

Write a program to find avg. marks of 3 subjects using multiple inheritance (visibility mode Protected)

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

Class A

{

Protected :

int a ;

Public :

```
void getData()
```

{

```
cout << "enter marks of C++ :";
```

```
cin >> a;
```

}

}

Class B

{

Protected :

int B ;

Public

```
void set ()
```

{

```
cout << "enter marks of Physics :";
```

```
cin >> b;
```

}

}

Class C

{

Protected:

int c;

Public:

void read()

{

cout << "enter marks of Maths:";

cin >> c;

{

{;

Class 10: Public A, Public B, Public C

{

Public:

float s;

void avg()

{

s=a+b+c;

cout << "average marks - " << s/3;

{

{;

int main()

{

DD dd

dd.get();

dd.set();

dd.read();

dd.avg();

return 0;

{

## Program - 42

### Aim

Write a Program to find area of rectangle, circle and square that are derived from shape two base class.

```
#include <iostream.h>
class shape
{
public:
    float r, a, b, l;
    void getdata ()
    {
        cout << "enter radius of circle : ";
        cin >> r;
        cout << "enter side of square : ";
        cin >> a;
        cout << "enter length and breadth of rectangle : ";
        cin >> l >> b;
    }
};
```

Class B : public shape

```
{
```

Public :

void area ()

```
{
```

Cout << "\n area of circle = " < 3.14 \* r \* r;

Cout << "\n area of square = " << a \* a;

Cout << "\n ~~area~~ area of rectangle = " << l \* b;

3  
B;  
int main ()  
{

B bb;  
bb . getdata ();  
bb . area ();  
return 0;

3

## Program - 43

Ques :-

write a program to implement the concept of constructor overloading

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

```
class demo
```

```
{
```

```
    int a;
```

```
public:
```

```
    demo()
```

```
{ a = 10;
```

```
}
```

```
    demo(int x)
```

```
{ a = x;
```

```
}
```

```
    demo(demo & x)
```

```
{ a = x.a;
```

```
}
```

```
    void putdata()
```

```
{ cout << "a = " << a;
```

```
}
```

```
}
```

```
int main()
```

```
{ demo aa;
```

```
    demo bb(20);
```

```
    demo cc(aa);
```

```
    aa.putdata();
```

```
    bb.putdata();
```

```
    cc.putdata();
```

```
    return 0;
```

```
}
```

21/12/2020

### Program-44

Ques:- write a program to calculate area of circle and rectangle using constructor.

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

```
class area
```

```
{
```

```
public:
```

```
area( int l, int b)
```

```
{
```

```
cout << "In area of rectangle = " << l * b;
```

```
}
```

```
area( float r)
```

```
{
```

```
cout << " In area of circle = " << 3.14 * r * r;
```

```
{
```

```
y;
```

```
int main()
```

```
{
```

```
area (4,5);
```

```
area (2.4);
```

```
return 0;
```

```
}
```

## Program - 45.

Ques:- Write a program to demonstrate the working of destructor.

```
#include <iostream.h>
int count = 0;
class demo
{
public:
    demo()
    {
        count++;
        cout << "In no. of objects created: " << count;
    }
    ~demo()
    {
        count--;
        cout << "In no. of objects deleted: " << count;
    }
};

int main()
{
    demo aa, bb, cc;
    demo dd;
    return 0;
}
```