## CONSTRUCTORS AND DESTRUCTORS

## 1. Write C++ program to generate Fibonaci series using a class fib, which have the following data members and member fucntions:

##  Data members : first, second(i.e fisrt 2 terms of the series) and n(no. of terms)

##  Constructor to initialize first, second and n

## Parameterised Constructor to take the value of first, second and n from the user.

##  Function gen\_fib() to generate the series.

## INPUT:

## #include<iostream.h>

## #include<conio.h>

## #include<stdio.h>

## class student

## {

## private:

## int admno;

## char sname[20];

## float eng,math,science;

## float total;

## float ctotal()

## {

## return eng+math+science;

## }

## public:

## void Takedata()

## {

## cout<<"Enter admission number ";

## cin>> admno;

## cout<<"Enter student name " ;

## gets(sname);

## cout<< "Enter marks in english, math, science ";

## cin>>eng>>math>>science;

## total=ctotal();

## }

## void Showdata()

## {

## cout<<"Admission number "<<admno<<"\nStudent name "<<sname<<"\nEnglish "

## <<eng<<"\nMath "<<math<<"\nScience "<<science<<"\nTotal "<<total;

## }

## };

## void main ()

## {

## clrscr();

## student obj ;

## obj.Takedata();

## obj.Showdata();

## getch();

## }

## OUTPUT:

## 

## 2. Write a C++ program to evaluate ab , by creating a class power where a and b are integer variables:

## (i) Constructor to initialize a and b

## (ii) Parameterized constructor to accept the values

## (iii) Function disp() to display the result values

## INPUT:

## #include<iostream.h>

## #include<conio.h>

## #include<stdio.h>

## #include<math.h>

## class power

## {

## private:

## int a,b;

## public:

## power()

## {

## a=10;

## b=3;

## }

## power(int l,int c)

## {

## a=l;

## b=c;

## }

## void disp()

## {

## int res;

## res = pow(a,b);

## cout<<"The result is "<<res<<endl;

## 

## }

## };

## void main ()

## {

## clrscr();

## int base,expo;

## power p;

## p.disp();

## cout<<" Enter the base and the exponent"<<endl;

## cin>>base>>expo;

## power contru(base,expo);

## contru.disp();

## getch();

## }

## OUTPUT:

## 

## 3. Write a C++ program to find the factorial of a number using a constructor to initialize the value and a destructor (generating the message “You have done it.”).

## INPUT:

## #include<iostream.h>

## #include<conio.h>

## #include<math.h>

## #include<stdio.h>

## #include<string.h>

## class fac

## {

## int f;

## int r;

## public:

## ~fac()

## {

## cout<<"\nYou have done it";

## getche();

## }

## fac(int e)

## {

## f=e;

## r=1;

## }

## void fa()

## {

## int i;

## for(i=f;i>1;i--)

## {

## r\*=i;

## }

## cout<<"factorial is "<<r;

## }

## };

## void main()

## {

## clrscr();

## fac x(3);

## x.fa();

## getch();

## }

## OUTPUT:

## 

## 4. Develop a program with the given fields and function :

## Display a class play in C++ with the following

##  Playcode integer

##  Playtitle 25 character

##  Duration float

##  Noofsecnes integer

## Public member function of class play

##  A constructor function to initialise duration as 45 and Noofscenes as 5.

##  Newplay() function to accept values for Playcode and Playtitle.

##  Moreinfo() function to assign the values ofduration and Noofscenes with the help of corresponding values passed as parameters to this function.

##  Showplay() function to display all the data members on the screen.

## INPUT:

## #include<iostream.h>

## #include<conio.h>

## #include<string.h>

## #include<stdio.h>

## class Play

## {

## int Playcode;

## char Playtitle[25];

## float Duration;

## int Noofscenes;

## public:

## Play( )

## {

## Duration=45; Noofscenes=5;

## }

## void Newplay( )

## {

## cout<<"\nEnter the Play Code: ";

## cin>>Playcode;

## cout<<"\nEnter the Play Title: ";

## gets(Playtitle);

## }

## void Moreinfo(float D,int N)

## {

## Duration = D; Noofscenes = N;

## }

## void Showplay( )

## {

## cout<<"\nThe Play Code : "<<Playcode;

## cout<<"\nThe Play Title : "<<Playtitle;

## cout<<"\nThe Duration : "<<Duration;

## cout<<"\nThe No of Scenes:"<<Noofscenes;

## }

## };

## void main( )

## {

## clrscr( );

## Play P;

## P.Newplay( );

## float Dur;

## int NS;

## cout<<"\nEnter the Duration and Number of Scenes: ";

## cin>>Dur>>NS; P.Moreinfo(Dur,NS);

## P.Showplay( );

## getch( );

## }

## OUTPUT:

## 

## 5. Develop a program with the given fields and function :

## Create a class box whose constructor function passes three values, each of which represents the length of one side of a box. From the box class compute the volume of the box and store the result in a double variable. Include a member function called vol() that displays the volume of each box object.

## INPUT:

## #include<iostream.h>

## #include<conio.h>

## class box

## {

## double l, w,h;

## double volume;

## public:

## box(double a, double b, double c);

## void vol();

## };

## box::box(double a, double b, double c)

## {

## l = a;

## w = b;

## h = c;

## volume = l\* w\*h;

## }

## void box::vol()

## {

## cout << "Volume is: "<<volume;

## }

## void main()

## {

## clrscr();

## box x(2.2, 3.97, 8.09) , y(1.0, 2.0, 3.0);

## x.vol();

## cout<<endl;

## y.vol();

## getche();

## }

## OUTPUT:

## 