University School of Information, Communication & Technology

Guru Gobind Singh Indraprastha University

OBJECT ORIENTED PROGRAMMING LAB

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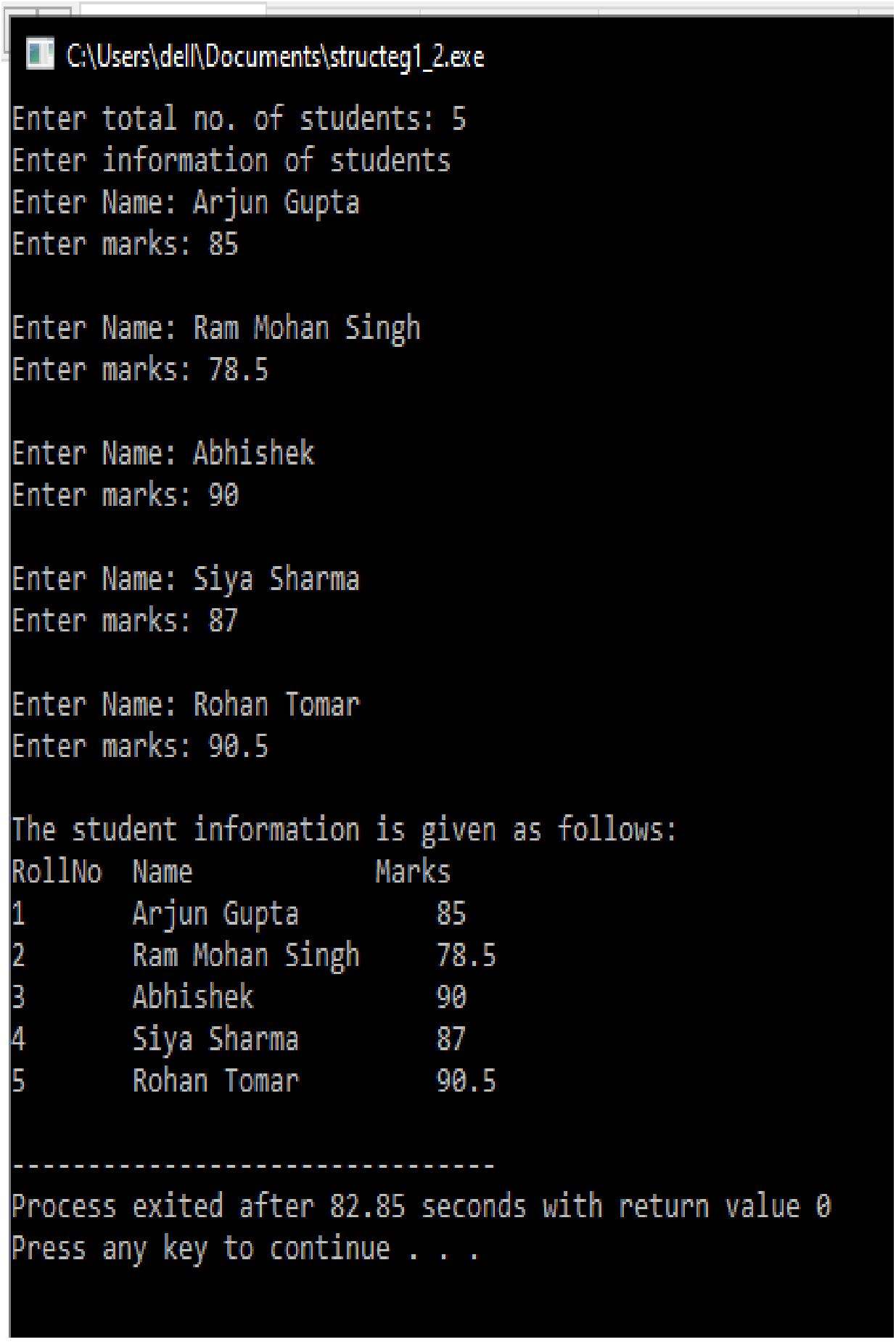
Ques 1: WAP to accept student data in the form of nested structure and print the data.

```
#include <iostream>
#include <iomanip>
#include <string>
using namespace std;
struct student {
  int rollNo;
  string fname;
  string lname;
  string name;
  float marks;
};
int main() {
        int ts;
        cout << "Enter total no. of students: ";
   cin >> ts;
  struct student stud[20];
   cout << "Enter information of students \n" ;
   for(int i = 0; i < ts; ++i)
   {
      stud[i].rollNo = i+1;
        cout<< "Enter Name: ";
      cin>>stud[i].fname;
      getline(cin,stud[i].lname);
      stud[i].name=stud[i].fname+stud[i].lname;
        cout << "Enter marks: ";
      cin >> stud[i].marks;
                cout << endl;  }
  cout<<"The student information is given as follows:"<<endl;
  cout<<"RollNo\tName\t\tMarks"<<endl;
  for(int i = 0; i < ts; i++)
   { cout<<setw(3)<<left<<stud[i].rollNo<<"\t";
                cout<<setw(20)<<left<<stud[i].name;
                cout<<setw(5)<<stud[i].marks<<endl;
   }
   return 0;
}
```

OUTPUT

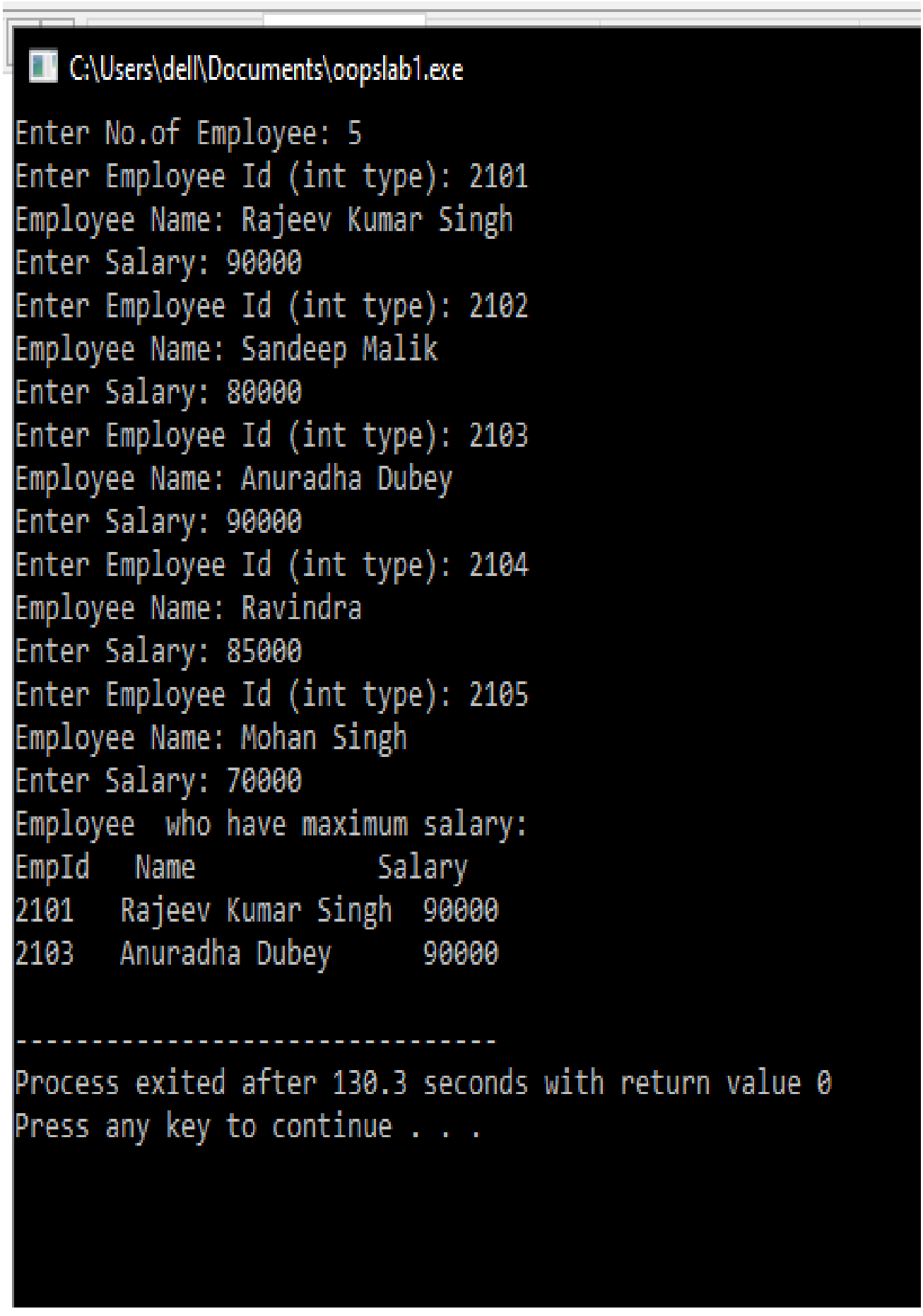

C:\Users\dell\Documents\structeg1_2.exe
Enter total no. of students: 5
Enter information of students
Enter Name: Arjun Gupta
Enter marks: 85
Enter Name: Ram Mohan Singh
Enter marks: 78.5
Enter Name: Abhishek
Enter marks: 90
Enter Name: Siya Sharma
Enter marks: 87
Enter Name: Rohan Tomar
Enter marks: 90.5
The student information is given as follows:
RollNo Name Marks
1 Arjun Gupta 85
2 Ram Mohan Singh 78.5
3 Abhishek 90
4 Siya Sharma 87
5 Rohan Tomar 90.5
Process exited after 82.85 seconds with return value 0
Press any key to continue . . .

Q.2 WAP for a struct array list to store the details of several employee and a function to find the maximum salary of the employee. Pass array list as function argument and display name of that employee with maximum salary.

```
#include<iostream>
#include<iomanip>
using namespace std;
struct employee
{
  int empid;
  string fname;
  string lname;
  string name;
  float salary;
};
float maxsal(employee list[],int n)
{
        float ms=list[0].salary;
        for(int i=1;i<n;i++)
        {
                if(list[i].salary>ms)
                ms=list[i].salary;
        }
        return ms;
}

int main()
{
  employee emp[10];
  int n;
  float ms;
        cout<<"Enter No.of Employee: ";
        cin>>n;
  for(int i=0; i<n; i++)
  {
    cout<<"Enter Employee Id (int type): ";
    cin>>emp[i].empid;
```

```
    cout<<"Employee Name: ";
    cin>>emp[i].fname;
    getline(cin,emp[i].lname);
    emp[i].name=emp[i].fname+emp[i].lname;
    cout<<"Enter Salary: ";
    cin>>emp[i].salary;
  }

        ms=maxsal(emp,n);
   cout<<"Employee  who have maximum salary:\n";
   cout<<"EmpId\tName\t\tSalary\n";
    for(int i=0; i<n; i++)
    {
      if(emp[i].salary == ms)
      {
        cout<<setw(7)<<left<<emp[i].empid;
        cout<<setw(20)<<left<<emp[i].name;
        cout<<setw(8)<<left<<emp[i].salary;
        cout<<"\n";
      }
    }
  return 0;
}
```

OUTPUT


C:\Users\dell\Documents\oopslab1.exe
Enter No.of Employee: 5
Enter Employee Id (int type): 2101
Employee Name: Rajeev Kumar Singh
Enter Salary: 90000
Enter Employee Id (int type): 2102
Employee Name: Sandeep Malik
Enter Salary: 80000
Enter Employee Id (int type): 2103
Employee Name: Anuradha Dubey
Enter Salary: 90000
Enter Employee Id (int type): 2104
Employee Name: Ravindra
Enter Salary: 85000
Enter Employee Id (int type): 2105
Employee Name: Mohan Singh
Enter Salary: 70000
Employee who have maximum salary:
EmpId Name Salary
2101 Rajeev Kumar Singh 90000
2103 Anuradha Dubey 90000

Process exited after 130.3 seconds with return value 0
Press any key to continue . . .

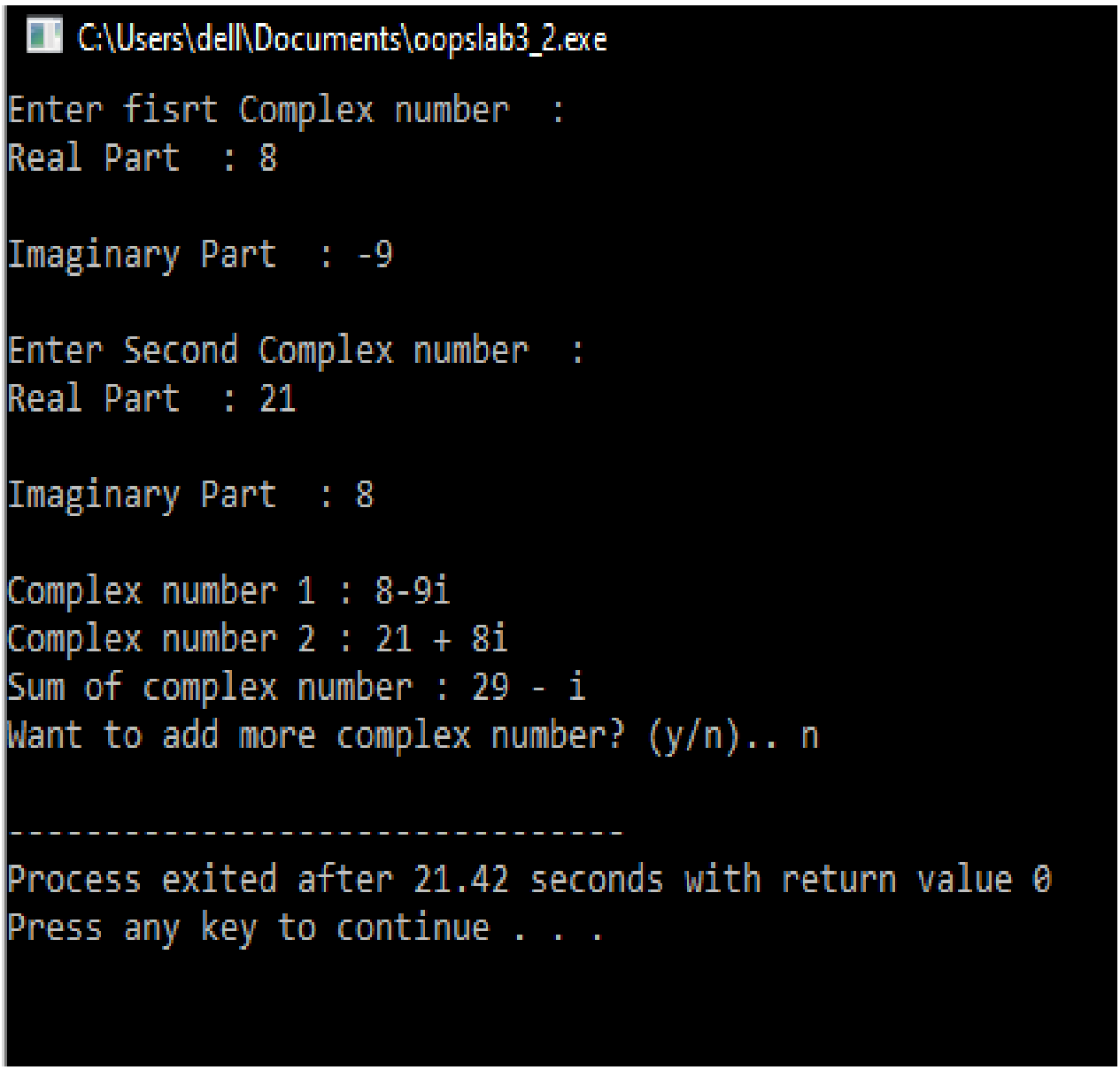
Q.3 WAP for a complex number class and add complex numbers. Also do constructor overloading using copy constructor.

```
#include<iostream>
using namespace std;
class Complex
 {
   public:
      int real, imag;

   // Constructor to accept real and imaginary part
   Complex(int x=0, int y=0)
   {
      real = x;
      imag = y;
   }

   Complex (Complex &C1)
   {
      real = C1.real;
      imag = C1.imag;
   }
   Complex addComp(Complex C1, Complex C2)
   {
      // creating temporary object of Complex
      Complex temp;
      // adding real part of complex numbers
      temp.real = C1.real + C2.real;
      // adding Imaginary part of complex numbers
      temp.imag = C1.imag + C2.imag;
      return temp;
   }
   void display()
   {
   cout<<real;
   if(imag>0)
         cout<< " + ";
         if(imag==1)
```

```
        cout<<"i";
        else if (imag==-1)
        cout<<" - i";
        else if (imag!=0)
        cout<<imag<<"i";
        }

};
int main()
{
        char ch;
        int a,b;
        do
  {
        cout<<"Enter fisrt Complex number  : "<<endl;
        cout<<"Real Part  : ";
        cin>>a;
        cout<<endl<<"Imaginary Part  : ";
        cin>>b;
        Complex C1(a,b);
   Complex C3(C1);
        cout<<endl<<"Enter Second Complex number  : "<<endl;
        cout<<"Real Part  : ";
        cin>>a;
        cout<<endl<<"Imaginary Part  : ";
        cin>>b;
   Complex C2(a, b);
   Complex C4(C2);
   // printing first complex number
   cout<<endl<<"Complex number 1 : ";
        C3.display();
   // printing second complex number
   cout<<endl<<"Complex number 2 : ";
        C4.display();
   // for Storing the sum
   Complex T;
        T=T.addComp(C3,C4);
        // printing the sum
   cout<<endl<<"Sum of complex number : ";
```

```
   T.display();
   cout<<endl<<"Want to add more complex number? (y/n).. ";
     cin>>ch;
  }while(ch=='y' || ch=='Y');
}
```

OUTPUT

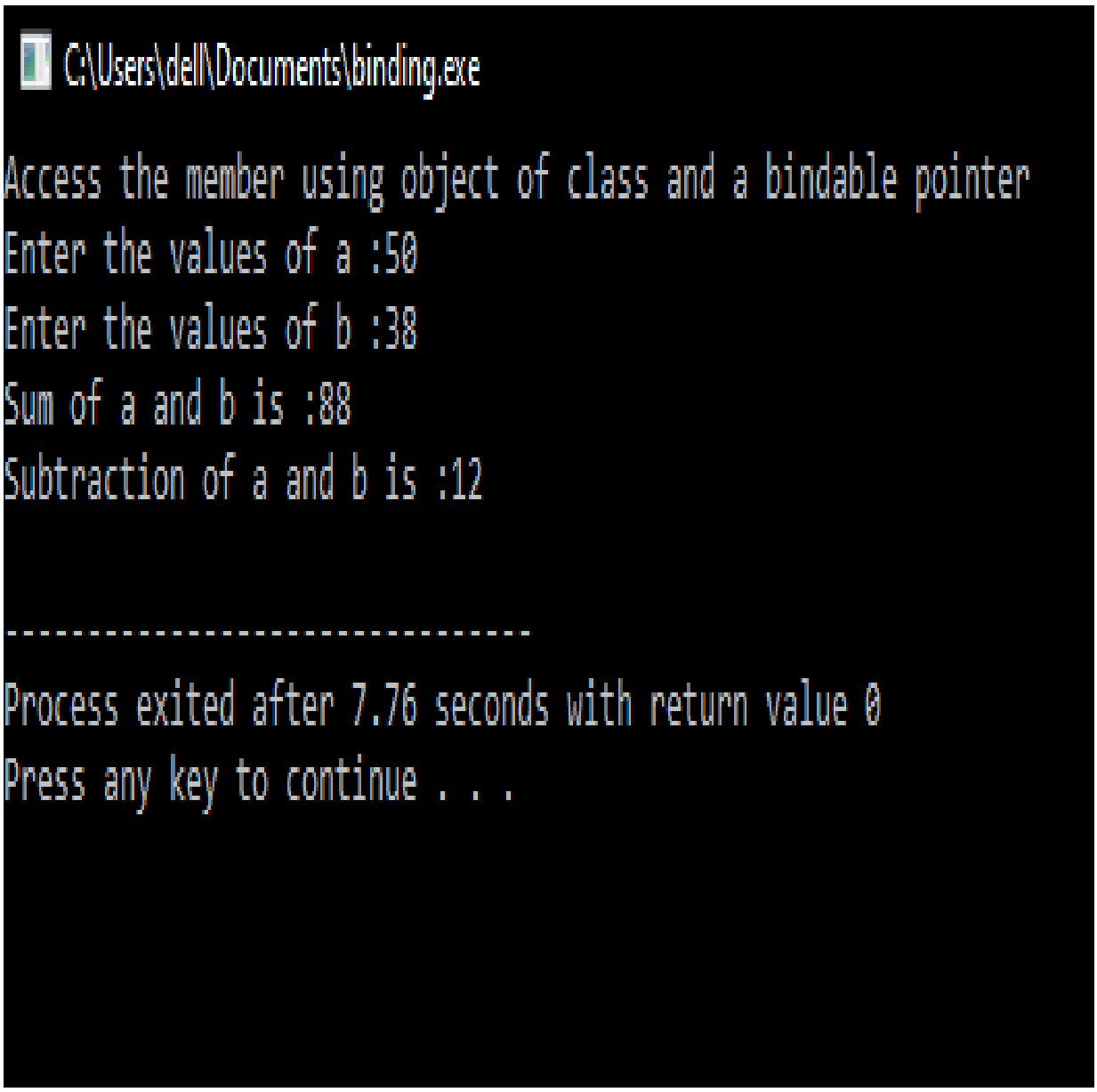


Q4. WAP to access the members of class using the concept of binding pointers.

```
#include <iostream>
using namespace std;
class Data
{
   private:
   int a,b;
   int resultA;
   public:
   int resultS;
   void input()
   {
      cout<<"Enter the values of a :";
      cin>>a;
      cout<<"Enter the values of b :";
      cin>>b;
   }
   int operate()
   {
      resultA=a+b;
      resultS=a-b;
      return resultA;
   }
};
int main()
{
   Data o1,o2;
   //STEP 1 - Declare a pointer to members of the class.
   int Data::*ptr;
   void (Data ::*pvf)();
   int (Data ::*pif)();
   //STEP 2 - Bind pointers to their specific member of a class.
   ptr= &Data ::resultS;
   pvf = &Data ::input;
   pif = &Data ::operate;
   //STEP 3 - Access the members using their bindable pointers.
```

```
   cout<<"Access the member using object of class and a bindable
pointer"<<endl;
   (o1.*pvf)();
   int x=(o1.*pif)();
   cout<<"Sum of a and b is :"<<x<<endl;
   cout<<"Subtraction of a and b is :"<<o1.*ptr<<endl;
   return 0;
}
```

OUTPUT



Q5. WAP to illustrate Operator overloading of '+', '++' operators with the help of Complex or Distance class.

```
#include<iostream>
using namespace std;
class Complex
 {
   int real,imag;
   // Constructor to accept real and imaginary part
   public:
         Complex ( int x=0, int y=0)
   {
      real = x;
      imag = y;
   }
   Complex operator+(Complex t)
   {
         Complex res;
         res.real=real+t.real;
         res.imag=imag+t.imag;
         return res;
         }
         Complex operator++()
   {
         Complex res;
         res.real=++real;
         res.imag=++imag;
         return res;
         }
         Complex operator++(int temp)
   {
         Complex res;
         res.real=real++;
         res.imag=imag++;
         return res;
         }
         Print()
   {
   cout<<real;
```

```
   if(imag>0)
        cout<< "+";
        if(imag==1)
        cout<<"i";
        else if (imag==-1)
        cout<<"-i";
        else if (imag!=0)
        cout<<imag<<"i";
        cout<<endl;
        } };
int main()
{
        char ch;
        int a,b;
        do{
        Complex C4,C5;
        cout<<"Enter fisrt Complex number  : "<<endl;
        cout<<"Real Part  : ";
        cin>>a;
        cout<<"Imaginary Part  : ";
        cin>>b;
   Complex C1(a, b);
        cout<<"Enter Second Complex number  : "<<endl;
        cout<<"Real Part  : ";
        cin>>a;
        cout<<"Imaginary Part  : ";
        cin>>b;
   Complex C2(a, b);
   // printing first complex number
   cout<<endl<<"Complex number 1 : ";
   C1.Print();
   // printing second complex number
   cout<<"Complex number 2 : ";
        C2.Print();
   // for Storing the sum
        Complex add=C1+C2;
        cout<<endl<<"Sum of complex number( Operator + overloading
Method) : ";
        add.Print();
```

```
        C4=++C1;
        C5=C2++;
        cout<<endl<<"Assign value to object by Prefix increment of complex
number 1 : ";
        C4.Print();
        cout<<endl<<"Present Value of Complex number 1 : ";
   C1.Print();
        cout<<endl<<"Assign value to object by Postfix increment of complex
number 2 : ";
        C5.Print();
        cout<<endl<<"Present value of Complex number 2 : ";
   C2.Print();
   cout<<endl<<"Want to add more complex number? (y/n).. ";
     cin>>ch;
  }while(ch=='y' || ch=='Y');
}
```

OUTPUT

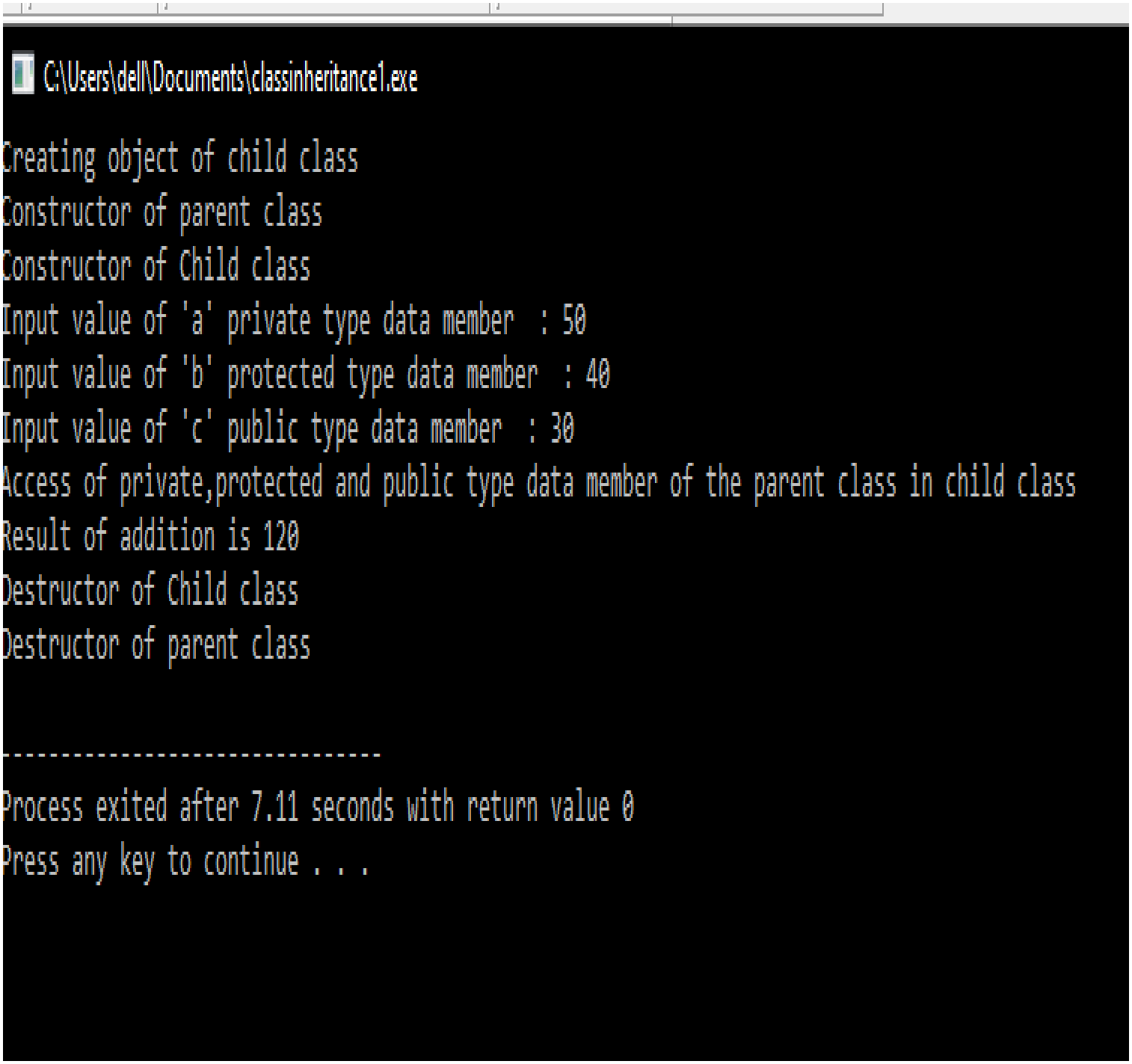
```
C:\Users\dell\Documents\oopslab4.exe
Enter fisrt Complex number  :
Real Part  : 4
Imaginary Part  : -5
Enter Second Complex number  :
Real Part  : 9
Imaginary Part  : 1

Complex number 1 : 4-5i
Complex number 2 : 9+i

Sum of complex number( Operator + overloading Method) : 13-4i

Assign value to object by Prefix increment of complex number 1 : 5-4i

Present Value of Complex number 1 : 5-4i

Assign value to object by Postfix increment of complex number 2 : 9+i

Present value of Complex number 2 : 10+2i

Want to add more complex number? (y/n).. n

--------------------------------
Process exited after 23.82 seconds with return value 0
Press any key to continue . . .
```

Q6. WAP of class Inheritance to illustrate order of execution of constructor/destructor of parent & child class and also access all types of data members of parent class using child class object .

```
#include<iostream>
using namespace std;
class Abc
{
private:
int a;
protected:
int b;
public:
        Abc(void)
   {
                cout << "Constructor of parent class\n";
   }
   ~Abc()
   {
      cout << "Destructor of parent class\n";
   }
int c;
void setA(int p)
{
a=p;
}
int getA()
{
return a;
}
void setB(int p)
{
b=p;
}
int getB()
{
```

```
return b;
}};
class C1: public Abc
{
private:
int res;
public:
C1(void)
  {
            cout << "Constructor of Child class\n";
  }
  ~C1()
  {
    cout << "Destructor of Child class\n";
  }
void add()
{
res=getA()+b+c;
cout<<"Result of addition is "<<res<<endl;
}};
int main()
{
int a,b,c;
cout<<"Creating object of child class \n";
C1 o1;
cout<<"Input value of 'a' private type data member  : ";
cin>>a;
o1.setA(a);
cout<<"Input value of 'b' protected type data member  : ";
cin>>b;
o1.setB(b);
cout<<"Input value of 'c' public type data member  : ";
cin>>c;
o1.c=c;
cout<<"Access of private,protected and public type data member of the
parent class in child class\n";
o1.add();
return 0;
}
```

OUTPUT

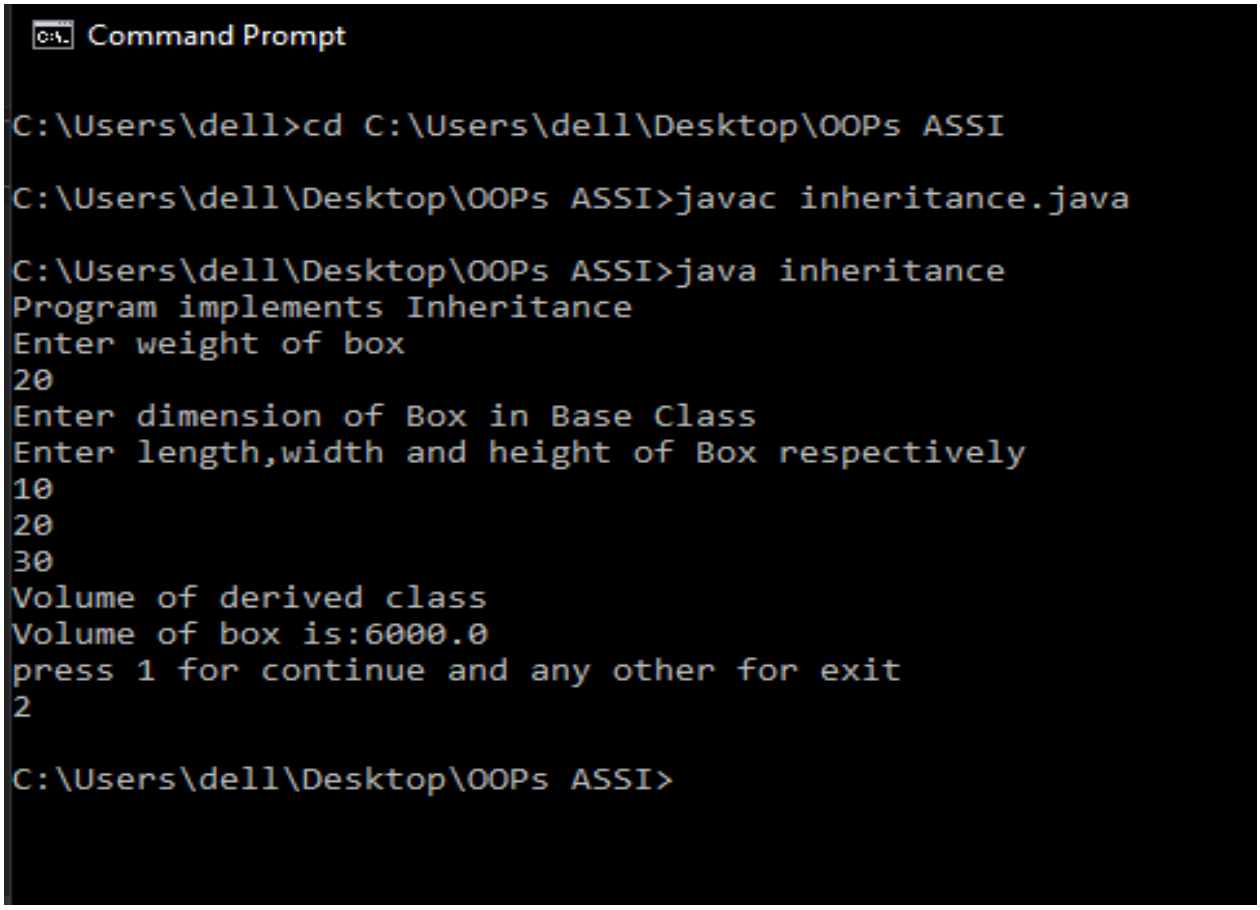

C:\Users\dell\Documents\classinheritance1.exe
Creating object of child class
Constructor of parent class
Constructor of Child class
Input value of 'a' private type data member : 50
Input value of 'b' protected type data member : 40
Input value of 'c' public type data member : 30
Access of private,protected and public type data member of the parent class in child class
Result of addition is 120
Destructor of Child class
Destructor of parent class
Process exited after 7.11 seconds with return value 0
Press any key to continue . . .

Ques 7: WAP to Implement the concept of inheritance using box class.

```
import java.util.*;
class Box
{
double length, width ,height;
void volume()
{
  double v=width*height*length;
  System.out.println("Volume of box is:"+v);
}
void setdim()
{
System.out.println("Enter dimension of Box in Base Class");
Scanner s=new Scanner(System.in);
System.out.println("Enter length,width and height of Box respectively");
length=s.nextFloat();
width=s.nextFloat();
height=s.nextFloat();
}
}
class BoxWeight extends Box
{
double weight;
BoxWeight(double w)
{
weight=w;
}
void volume()
{
System.out.println("Volume of derived class");
super.volume();
}
}
class inheritance
{
public static void main(String args[])
{
System.out.println("Program implements Inheritance ");
Scanner s=new Scanner(System.in);
```

```
int l=1;
do{
double w;
System.out.println("Enter weight of box");
w=s.nextFloat();
BoxWeight ob1=new BoxWeight (w);
ob1.setdim();
ob1.volume();
System.out.println("press 1 for continue and any other for exit");
l=s.nextInt();
}while(l==1);
s.close();
}
}
```

OUTPUT



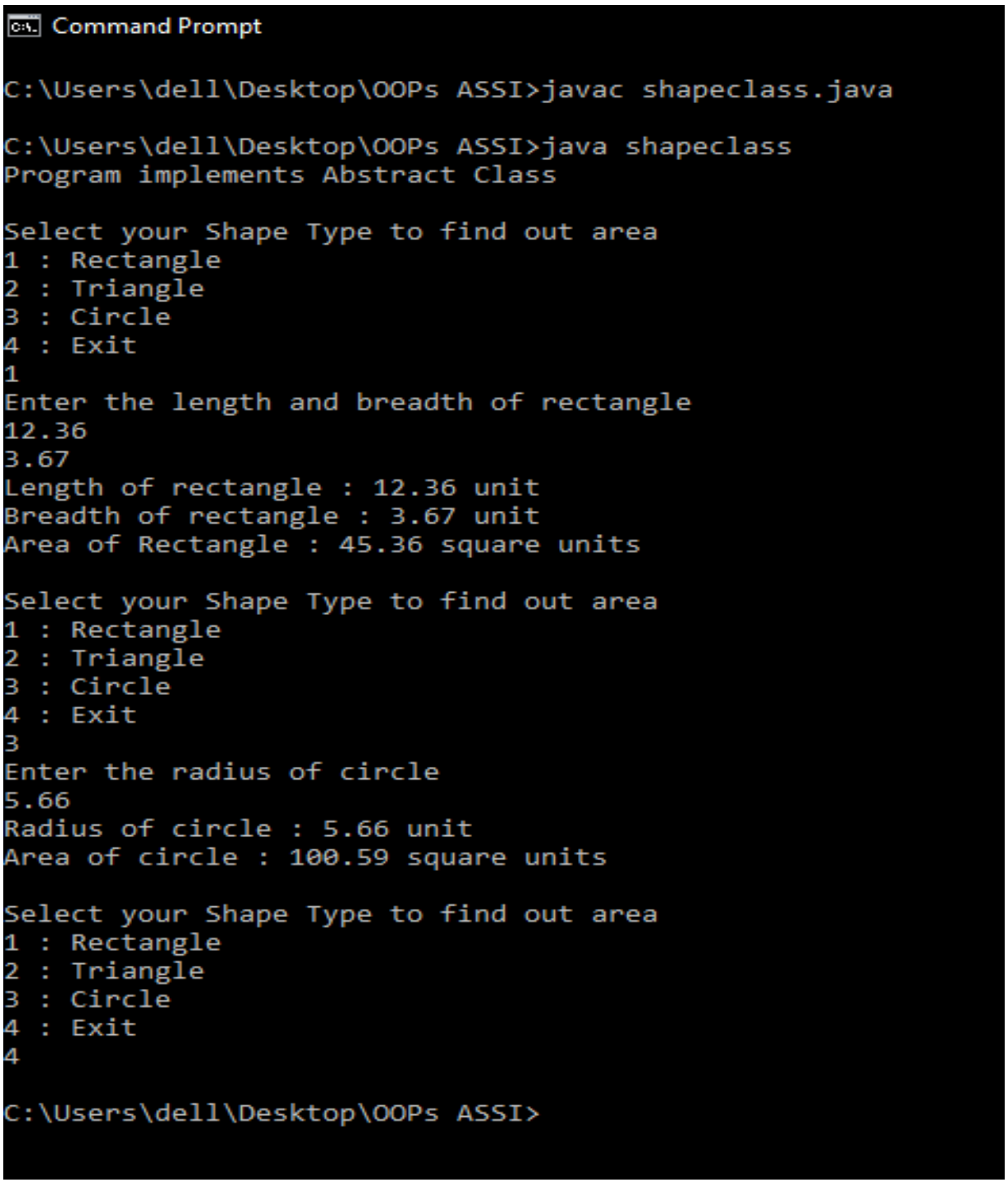
Ques 8: Implement an area program using abstract class.

```
import java.util.*;
abstract class shape
{
double a,b;
abstract public void printarea();
}
class rectangle extends shape
{
public double area_rect;
public void printarea()
{
Scanner s=new Scanner(System.in);
System.out.println("Enter the length and breadth of rectangle");
a=s.nextFloat();
b=s.nextFloat();
area_rect=a*b;
System.out.printf("Length of rectangle : %.2f unit\n",a);
System.out.printf("Breadth of rectangle : %.2f unit\n",b);
System.out.printf("Area of Rectangle : %.2f square units\n",area_rect);
}
}
class triangle extends shape
{
double area_tri;
public void printarea()
{
Scanner s=new Scanner(System.in);
System.out.println("Enter the base and height of triangle");
a=s.nextFloat();
b=s.nextFloat();
System.out.printf("Base of Triangle : %.2f unit\n",a);
System.out.printf("Height of Triangle : %.2f unit\n",b);
area_tri=(0.5*a*b);
System.out.printf("Area of triangle : %.2f square units\n",area_tri);
}
}
class circle extends shape
{
double area_circle;
```

```
public void printarea()
{
Scanner s=new Scanner(System.in);
System.out.println("Enter the radius of circle");
a=s.nextFloat();
area_circle=(3.14*a*a);
System.out.printf("Radius of circle : %.2f unit\n",a);
System.out.printf("Area of circle : %.2f square units\n",area_circle);
}
}
public class shapeclass
{
public static void main(String[] args)
{
System.out.println("Program implements Abstract Class");
Scanner s=new Scanner(System.in);
int l=1,c1;
do{
System.out.println("\nSelect your Shape Type to find out area");
System.out.println("1 : Rectangle");
System.out.println("2 : Triangle");
System.out.println("3 : Circle");
System.out.println("4 : Exit");
c1=s.nextInt();
switch(c1)
{
case 1:
rectangle r=new rectangle();
r.printarea();
break;
case 2:
triangle t=new triangle();
t.printarea();
break;
case 3:
circle r1=new circle();
r1.printarea();
break;
case 4:
l=2;
break;
default:
```

```
System.out.println("Your choice is wrong");
}
}while(l==1);
s.close();
}
}
```

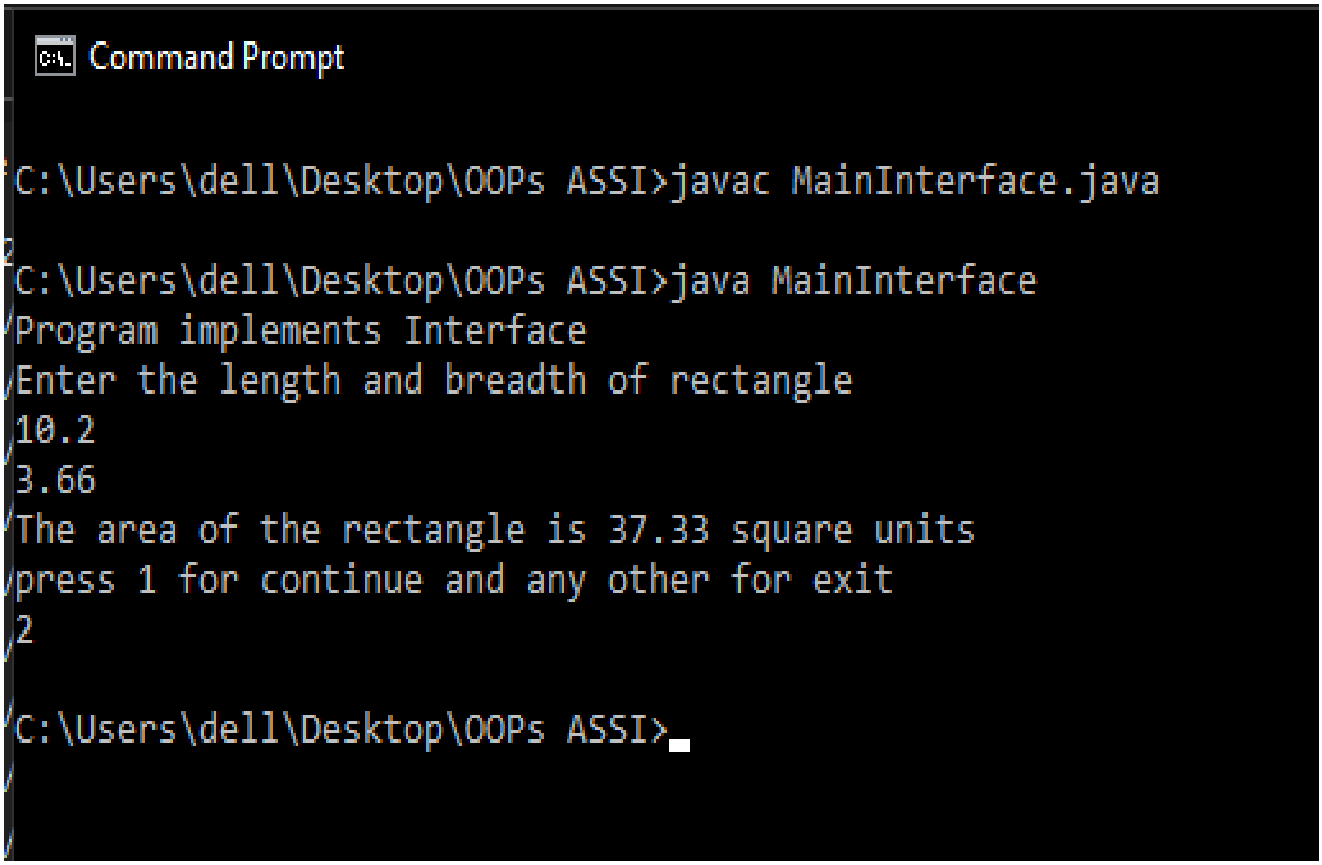
OUTPUT



Ques 9: WAP to implement the interface using any class.

```
import java.util.*;
interface Polygon
{
void getArea(double length, double breadth);
}
class Rectangle implements Polygon
{
public void getArea(double length, double breadth)
{
System.out.printf("The area of the rectangle is %.2f square units\n",(length *
breadth));
}
}
class MainInterface
{
public static void main(String[] args)
{
System.out.println("Program implements Interface");
Scanner s=new Scanner(System.in);
int l=1;
double a,b;
do{
Polygon r1 = new Rectangle();
System.out.println("Enter the length and breadth of rectangle");
a=s.nextFloat();
b=s.nextFloat();
r1.getArea(a,b);
System.out.println("press 1 for continue and any other for exit");
l=s.nextInt();
}while(l==1);
s.close();
}
}
```

OUTPUT



Ques 10: WAP to implement Thread class in java and call its functions i.e. getName, setName, getPriority etc.

```
import java.lang.Thread;
class hello extends Thread {
   int a;
   hello(int a) {
      this.a = a;
   }
   public void run() {
      for (int i = 0; i < a; i++) {
         System.out.println("hello");
         try {
            Thread.sleep(100);
         } catch (Exception e) {
         }
      }
   }
```

```
}

public class multithreading{
   public static void main (String[] args) throws Exception {
      System.out.println("Program of Mutlithreading here thread Good,
Morning & hello have delay 50ms, 100ms & 150 ms respectively");
         System.out.println("");
      Thread T1 = new Thread(() -> {
         for (int i = 0; i < 5; i++) {
            System.out.println("Good");
            try {
               Thread.sleep(150);
            } catch (Exception e) {
            }
         }
      });
      Thread T2 = new Thread(() -> {
         for (int i = 0; i < 5; i++) {
            System.out.println("Morning");
            try {
               Thread.sleep(100);
            } catch (Exception e) {
            }
         }
      });
         hello h = new hello(5);
      System.out.print("Default Name of thread: ");
      System.out.println(T1.getName());
      T1.setName("Thread Good");
      System.out.print("Changed Name of thread : ");
      System.out.println(T1.getName());
      System.out.println("Default Priority of " + T1.getName() + " is " +
T1.getPriority());
      T1.setPriority(Thread.MAX_PRIORITY);
      System.out.println("After changing Priority of " + T1.getName() + " is " +
T1.getPriority());
         System.out.println("");

      System.out.print("Default Name of thread : ");
      System.out.println(T2.getName());
      T2.setName("Thread Morning");
      System.out.print("Changed Name of thread : ");
```

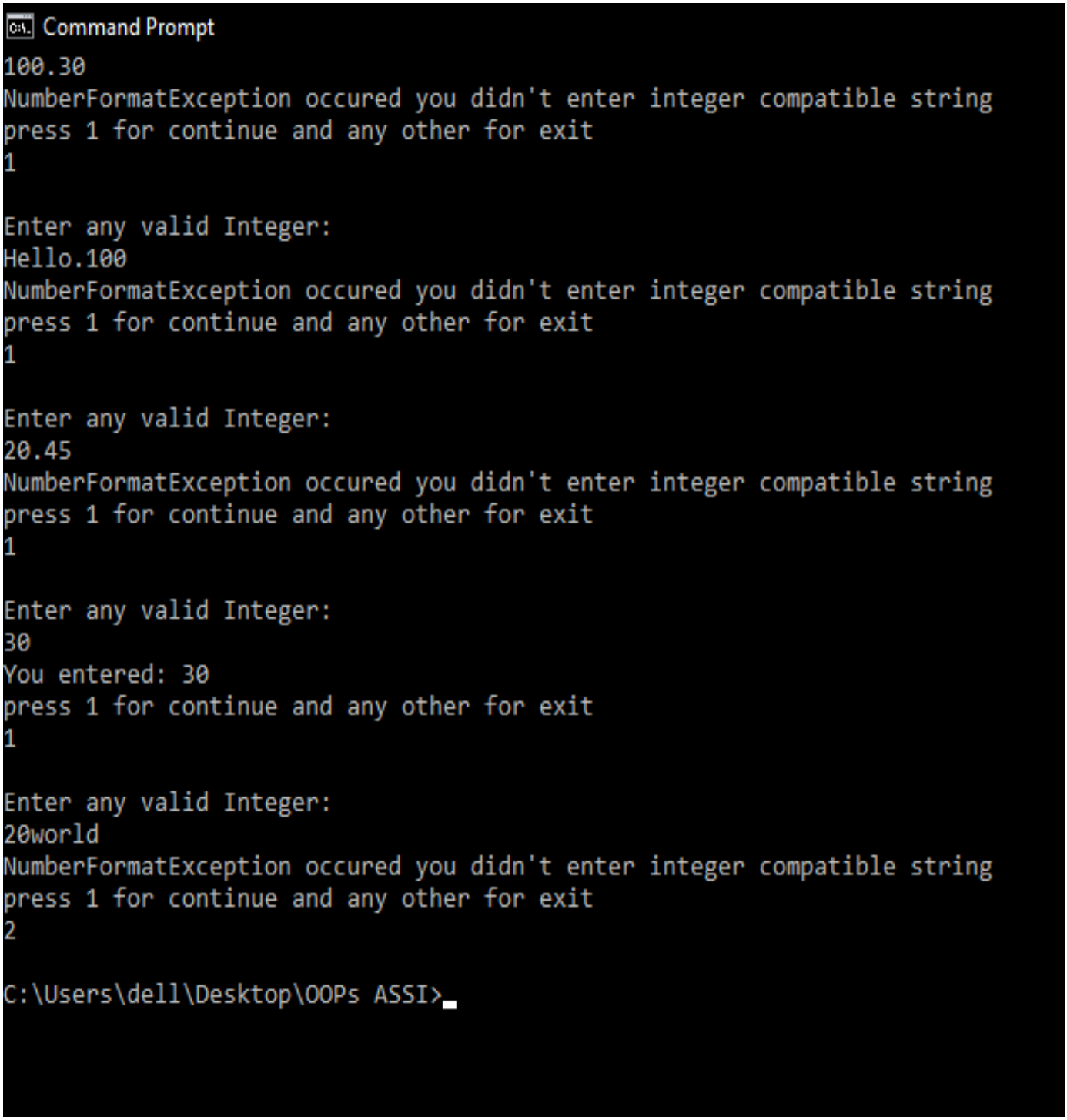
```
        System.out.println(T2.getName());
        System.out.println("Default Priority of " + T2.getName() + " is " +
T2.getPriority());
        T2.setPriority(Thread.MIN_PRIORITY);
        System.out.println("After changing, Priority of " + T2.getName() + "
becomes " + T2.getPriority());
        System.out.println("");

          System.out.print("Default Name of Hello class thread : ");
        System.out.println(h.getName());
          System.out.println("Default Priority of"+ h.getName() + " becomes " +
h.getPriority());
          System.out.println("");

        T1.start();
        T2.start();
          h.start();
        T1.join();
        T2.join();
          h.join();
        System.out.println("Program completed");
    }
}
```

```
Administrator: Command Prompt

C:\Users\dell\Desktop\OOPs ASSI>javac multithreading.java

C:\Users\dell\Desktop\OOPs ASSI>java multithreading
Program of Mutlithreading here thread Good, Morning & hello have delay 50ms, 100ms & 150 ms respectively

Default Name of thread: Thread-0
Changed Name of thread : Thread Good
Default Priority of Thread Good is 5
After changing Priority of Thread Good is 10

Default Name of thread : Thread-1
Changed Name of thread : Thread Morning
Default Priority of Thread Morning is 5
After changing, Priority of Thread Morning becomes 1

Default Name of Hello class thread : Thread-2
Default Priority ofThread-2 becomes 5

Good
Morning
Morning
Morning
hello
Good
Morning
hello
Morning
Good
hello
Good
hello
hello
Good
Program completed

C:\Users\dell\Desktop\OOPs ASSI>
```

Ques 11: WAP to handle following string to change in number using numberformatexecption
100.30, Hello.100, 20.45, 30, 20world.

```
import java.util.*;
public class ValidNumber
{
public static void main(String[] arg)
{
System.out.println("Program to illustrate NumberFormatException via taking
input String from user & change into integer");
int number;
Scanner sc = new Scanner(System.in);
int l=1;
do{
System.out.println("\nEnter any valid Integer: ");
try
{
number = Integer.parseInt(sc.next());
System.out.println("You entered: "+number);
}
catch (NumberFormatException e)
{
System.out.println("NumberFormatException occured you didn't enter
integer compatible string");
}
System.out.println("press 1 for continue and any other for exit");
l=sc.nextInt();
}while(l==1);
sc.close();
}
}
```

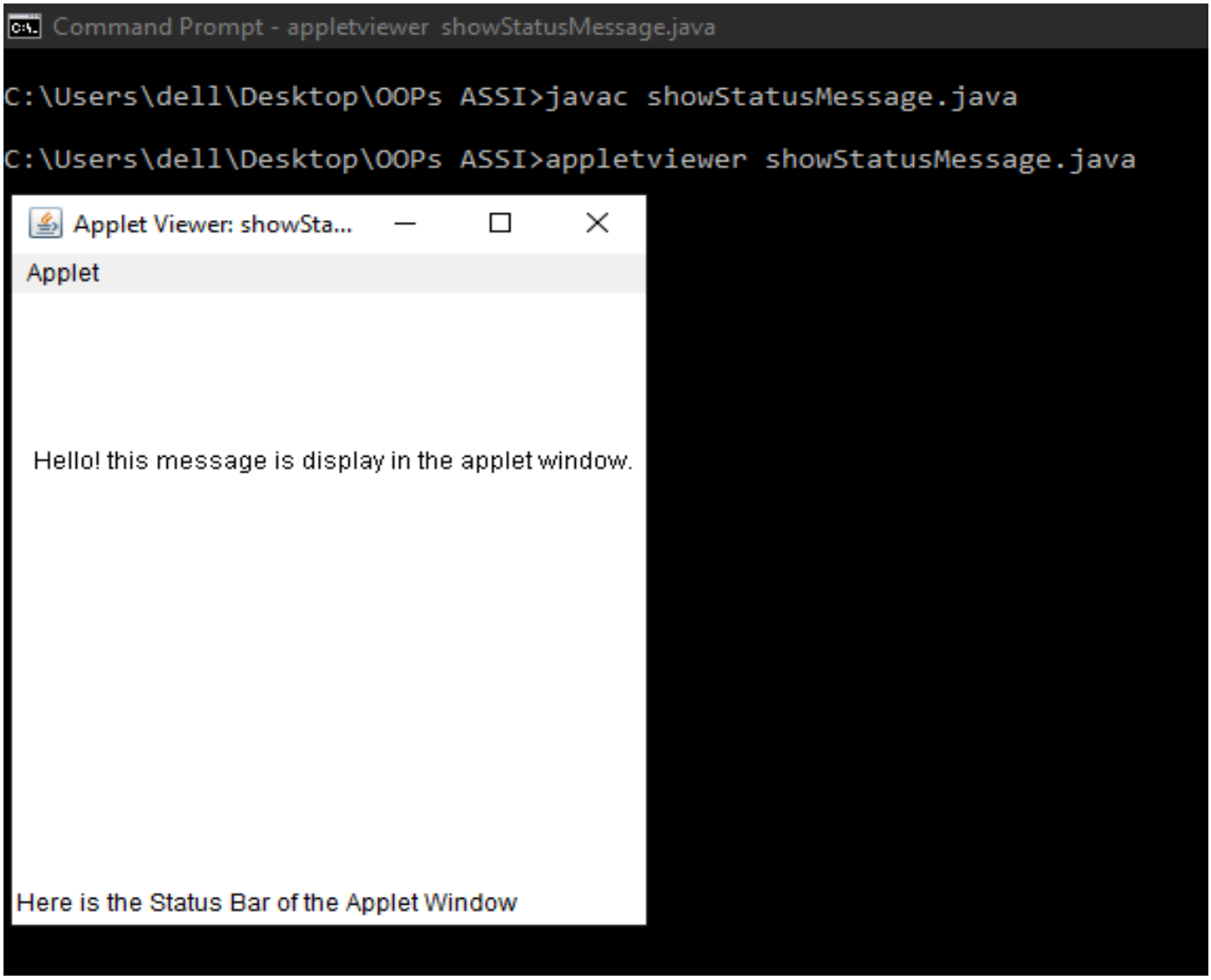
OUTPUT


Command Prompt
100.30
NumberFormatException occured you didn't enter integer compatible string
press 1 for continue and any other for exit
1
Enter any valid Integer:
Hello.100
NumberFormatException occured you didn't enter integer compatible string
press 1 for continue and any other for exit
1
Enter any valid Integer:
20.45
NumberFormatException occured you didn't enter integer compatible string
press 1 for continue and any other for exit
1
Enter any valid Integer:
30
You entered: 30
press 1 for continue and any other for exit
1
Enter any valid Integer:
20world
NumberFormatException occured you didn't enter integer compatible string
press 1 for continue and any other for exit
2
C:\Users\dell\Desktop\OOPs ASSI>

Ques 12: WAP to display ‘in the status bar’ of applet window and display ‘in the applet window’.

```
import java.applet.Applet;
import java.awt.Graphics;
/*<applet code="showStatusMessage" width=300 height=300>
</applet>*/
public class showStatusMessage extends Applet
{
public void paint(Graphics g)
{
g.drawString("Hello! this message is display in the applet window.", 10, 90);
showStatus("Here is the Status Bar of the Applet Window");
//The text in status bar will be shown
} }
```

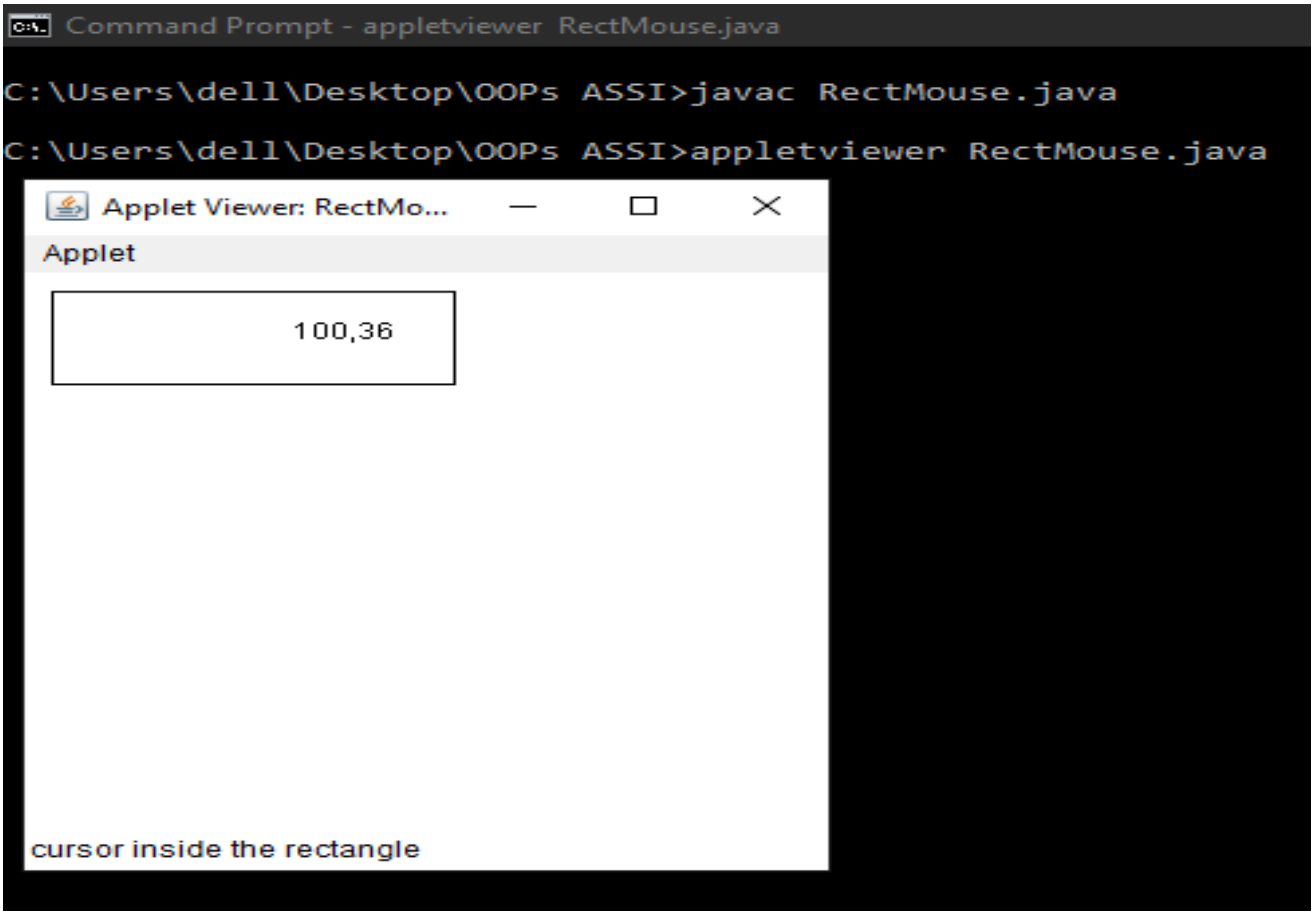
OUTPUT

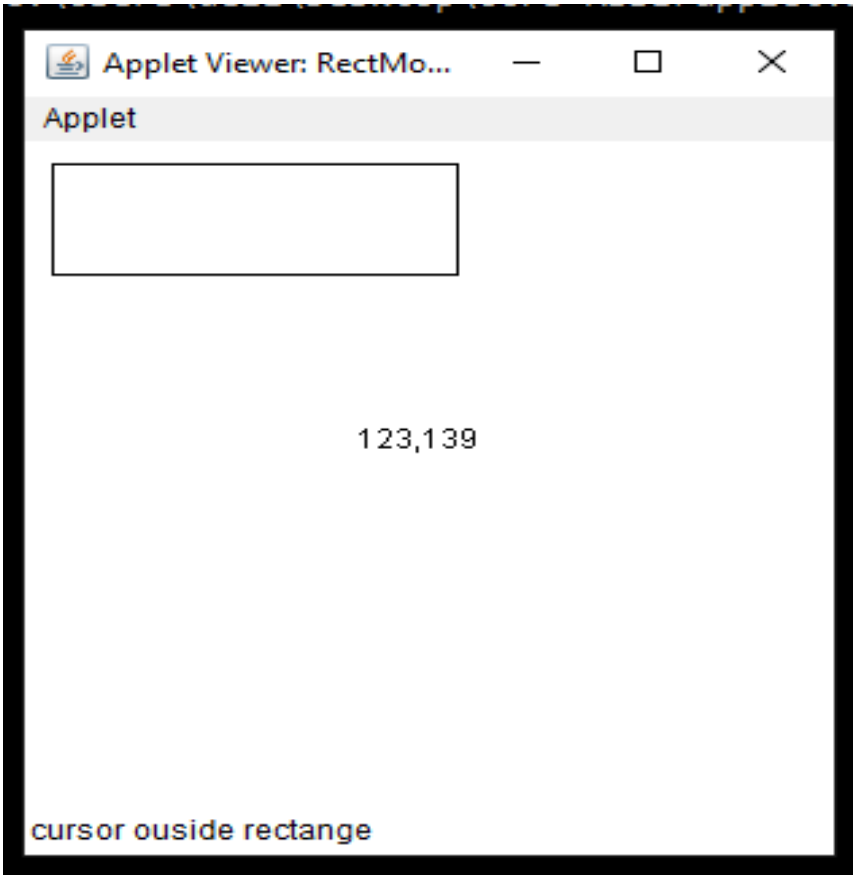


Ques 13: WAP to create a rectangle in an applet window and check if the mouse is inside or outside the rectangle and the applet window.

```
import java.applet.*;
import java.awt.*;
import java.awt.event.*;
/*<applet code="RectMouse" width=300 height=300>
</applet>*/
public class RectMouse extends Applet{
int x=0,y=0,count=0;
String str="Outside Applet Screen";
public void init()
{
addMouseMotionListener(new mymouselistener());
}
public void start()
{
}
public void paint(Graphics g)
{
g.drawRect(10,10,150,50);
g.drawString(x + ","+ y , x,y);
showStatus(str);
}
public class mymouselistener extends MouseAdapter
{
public void mouseMoved(MouseEvent e)
{
x = e.getX();
y = e.getY();
boolean z=(x>=10&&y>10)&&(x<160&&y<60)&&(x>10&&y<60)&&(x<160&&y>10);
if(z)
str="cursor inside the rectangle";
else
str="cursor ouside rectange";
repaint();
} }
}
```

OUTPUT


Command Prompt - appletviewer RectMouse.java
C:\Users\dell\Desktop\OOPs ASSI>javac RectMouse.java
C:\Users\dell\Desktop\OOPs ASSI>appletviewer RectMouse.java
Applet Viewer: RectMo...
Applet
100,36
cursor inside the rectangle

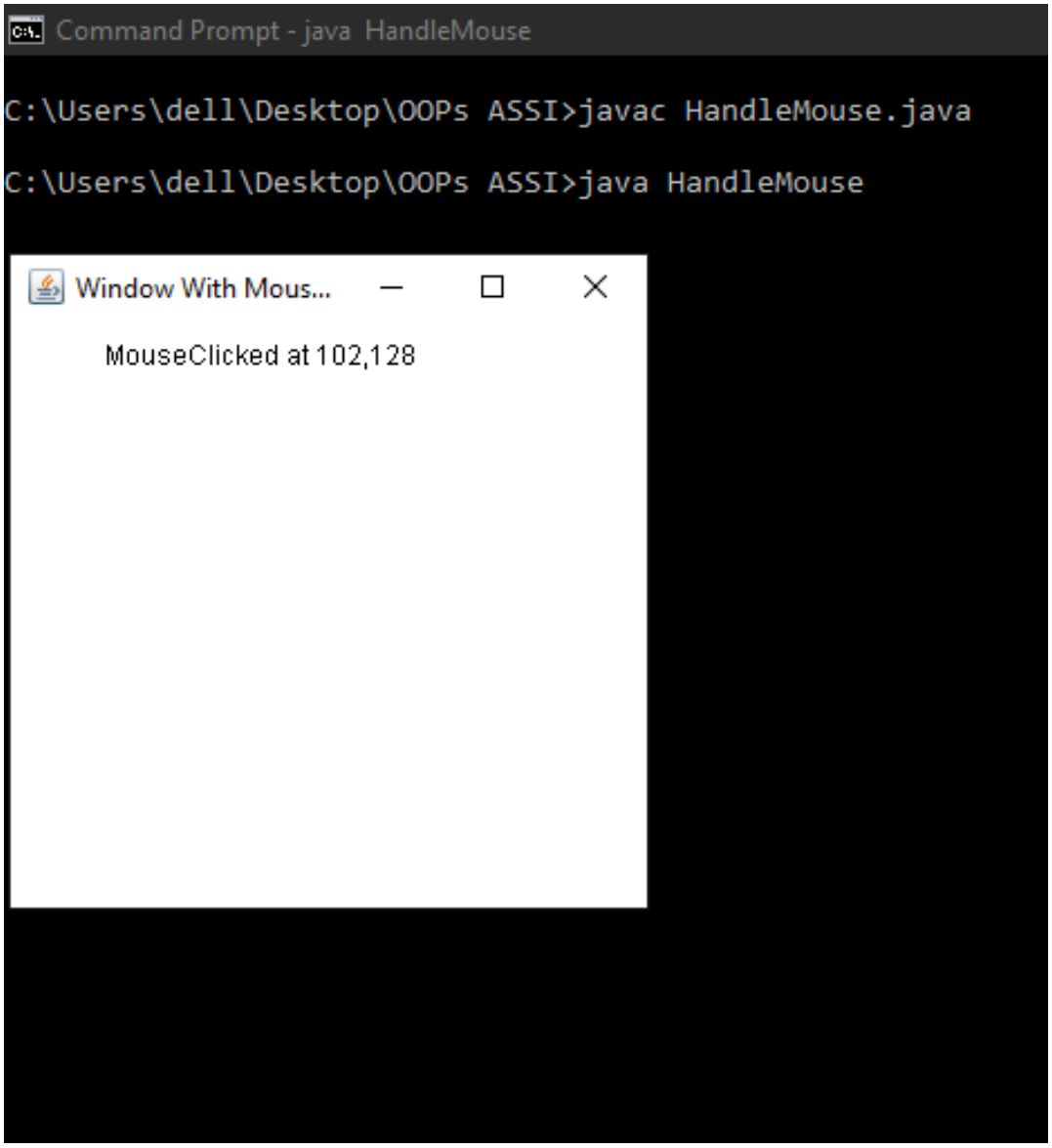

Applet Viewer: RectMo...
Applet
123,139
cursor ouside rectange

Ques 14: WAP to create a standalone window and handle various mouse events. Also handle the closing of the frame.

```
import java.awt.Frame;
import java.awt.Graphics;
import java.awt.event.MouseEvent;
import java.awt.event.MouseListener;
import java.awt.event.WindowAdapter;
import java.awt.event.WindowEvent;
/*To create a stand alone window, class should be extended
from Frame and not from Applet class.*/
public class HandleMouse extends Frame implements MouseListener{
int x=0, y=0;
String strEvent = "";
HandleMouse(String title){
//call superclass constructor with window title
super(title);
//add window listener
addWindowListener(new MyWindowAdapter(this));
//add mouse listener
addMouseListener(this);
//set window size
setSize(300,300);
//show the window
setVisible(true);
}
public void mouseClicked(MouseEvent e) {
strEvent = "MouseClicked";
x = e.getX();
y = e.getY();
repaint();
}
public void mousePressed(MouseEvent e) {
strEvent = "MousePressed";
x = e.getX();
y = e.getY();
repaint();
}
public void mouseReleased(MouseEvent e) {
```

```
strEvent = "MouseReleased";
x = e.getX();
y = e.getY();
repaint();
}
public void mouseEntered(MouseEvent e) {
strEvent = "MouseEntered";
x = e.getX();
y = e.getY();
repaint();
}
public void mouseExited(MouseEvent e) {
strEvent = "MouseExited";
x = e.getX();
y = e.getY();
repaint();
}
public void paint(Graphics g){
g.drawString(strEvent + " at " + x + "," + y, 50,50);
}
public static void main(String[] args) {
HandleMouse myWindow = new HandleMouse("Window With Mouse Events
Example");
}
}
class MyWindowAdapter extends WindowAdapter{
HandleMouse myWindow = null;
MyWindowAdapter(HandleMouse myWindow){
this.myWindow = myWindow;
}
public void windowClosing(WindowEvent we){
myWindow.setVisible(false);
}
}
```

OUTPUT


Command Prompt - java HandleMouse
C:\Users\dell\Desktop\OOPs ASSI>javac HandleMouse.java
C:\Users\dell\Desktop\OOPs ASSI>java HandleMouse
Window With Mous...
MouseClicked at 102,128

Ques 15: WAP to illustrate the concept of JDBC.

```
import java.sql.*;
import java.util.*:
public class JDBCDemo
{
public static void main(String args[])
      throws SQLException, ClassNotFoundException
   {
      String url = "jdbc:mysql://localhost:3306/USICT";
      String username = "root";
      String password = "";
      String query = "select * from Faculty";
      // Load driver class
      Class.forName("com.mysql.jdbc.Driver");
      // Obtain a connection
      Connection con = DriverManager.getConnection(url, username, password);
      // Obtain a statement
      Statement st = con.createStatement();
      // Execute the query
      ResultSet rs = st.executeQuery(query);
        while(rs.next())
        {
      System.out.println(rs.getInt(1) +" "+ rs.getString(2));
      }
        rs.close();
        st.close();
      con.close();
   }
}
```

OUTPUT