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Section: C

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Lab Program-6(20/11/2020)

Create a package CIE which has two classes- Student and Internals. The class Personal has members like usn, name, sem. The class Internals has an array that stores the internal marks scored in five courses of the current semester of the student. Create another package SEE which has the class External which is a derived class of Student. This class has an array that stores the SEE marks scored in five courses of the current semester of the student. Import the two packages in a file that declares the final marks of n students in all five courses.

PACKAGE LAB PROGRAM

```
" student . java"
 Package cle;
 rasport java . util . *;
 Public class student
 3
     Public String usn;
      pollic String name;
      public sat sem;
      Public void read ()
      Scarre sc = new Scarne (System.in);
       Systemout printly ("Enter use of student: ");
         usn = sc.next ();
       system out println ("Enter name of student s");
          name = sc. next():
       syptem out print (" Enter senester: ").
         sem = sc. nextInt();
      " enternals . java "
      Package de ;
      import java outil . * ;
     Public class internals extends student
           Public ent[] cle_m= new ent[s];
            Public und read ()
          { super.read();
           Scannel Sc = new Scannel ( system in );
           System. out . println ("Enter CIE marks:")
```

```
for (int 1=0; ic3; i++)
   System-out println ("Enter marks of the course"+ (:+1)+1.
        cie_m[i] = sc.nextInt();
    4
7
    public vord display()
     System-out-println ("usn of student is" + usn);
     System-out printly ("Name of student is "+ name).
     System-out-printer ("Semester of student is "+ sun).
 4
4
     externals · java
     package see ;
     amport java.utsl. *;
     import java . 10;
      emport java lang . *;
      Public class external extends cie. student
          Public ent [] see-m = new ent [3];
           public int [] mar;
           public void read ()
          Scannel Sc = new Scannel (Systemin);
        System out println (" Enter SEE marks : ").
           for (int 1=0; ic3; i++)
            System out print ("Enter SEE marks of the course"
                                 +(:+1)+": ").
              Sec_m(i) = sc. nextInt();
```

```
" main_stu. java
  import java-util . * ;
  import java . to;
  import java lang . * ;
    import cie. +;
    import see . *;
  public class student-end
  public static void main (string[] orgs)
   f int n;
     Scarner Sc = new Scanner (System : (n);
      int final-mark;
     System-out print ("Enter number of students:");
         n= sc=nexHnt();
        internal SCD in = new internal ( [n];
          external [] ex = new external [n];
          internals obl = new internals ();
          external ob2 = new external ();
            obe mar = new Ent-Cn7;
       for (int i=0; icn; i++)
  System out println (" Enter details of student "+(i+1)+":");
           in [:] = rew internal ();
            in [i] . read ();
           ex (3) = new external ();
            ex[1]. read():
      Syptem out println();
          for (int :00; icn; i++)
      { system.out.println("Detask of Shodut" + (1+1));
```

```
System-out-println ("Name of Student is " + inti).name);

System-out-println ("Semester of Student is " + inti).sem);

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

final_mark = in (i). eie_m(j) + ((ex (i).see_m(j))/2);

System-out-println("Final mark of student" + (i+1) + "" +

"in course" + (j+1) + "" + final_mark);

system-out-println();

system-out-println();
```

Student.java

```
packa
ge
cie;
       import java.util.*;
       public class student
             public String usn;
             public String name;
             public int sem;
             public void read()
                   Scanner sc=new Scanner(System.in);
             System.out.print("Enter usn of the student : ");
                   usn=sc.next();
             System.out.print("Enter name of the student : ");
                   name=sc.next();
       System.out.print("Enter semester of the student : ");
                   sem=sc.nextInt();
             }
       }
```

```
Internals.java
 packa
 ge
 cie;
        import java.util.*;
        public class internals extends student
              public int[] cie_m=new int[3];
              public void read()
                    super.read();
                  Scanner sc=new Scanner(System.in);
        System.out.println("Enter the CIE marks : ");
                  for(int i=0;i<3;i++)</pre>
        System.out.print("Enter marks of the course " +
         (i+1)+": ");
                    cie_m[i]=sc.nextInt();
              public void display()
        System.out.println("USN of the student is " +
        usn);
        System.out.println("Name of the stuednt is " +
        name);
        System.out.println("Semester of the student is "
        + sem);
        }
        }
        Externals.java
```

```
package
see;
         import java.util.*;
         import java.io.*;
         import java.lang.*;
         public class external extends
         cie.student
               public int[] see_m=new int[3];
               public int[] mar;
               public void read()
         Scanner sc=new Scanner(System.in);
         System.out.println("Enter the SEE
         marks : ");
                    for(int i=0;i<3;i++)
         System.out.print("Enter the SEE marks
         of the course " + (i+1)+": ");
         see_m[i]=sc.nextInt();
               }
         }
Main_stu.java
 Import
 java.util
 . * ;
            import java.io.*;
            import java.lang.*;
            import cie.*;
            import see.*;
            public class student_end
            public static void main(String[]
            args)
                  {
                        int n;
            Scanner sc=new Scanner(System.in);
                        int final_mark;
            System.out.print("Enter the Number
            of students : ");
```

```
n=sc.nextInt();
internals[] in=new internals[n];
external[] ex=new external[n];
internals ob1=new internals();
external ob2=new external();
           ob2.mar=new int[n];
           for(int i=0;i<n;i++)</pre>
System.out.println("Enter the
details of the student " + (i+1)+":
");
     in[i]=new internals();
     in[i].read();
     ex[i]=new external();
     ex[i].read();
           }
    System.out.println();
           for(int i=0;i<n;i++)</pre>
System.out.println("Details Of The
Student " + (i+1);
System.out.println("USN of the
student is " + in[i].usn);
System.out.println("Name of the
stuednt is " + in[i].name);
System.out.println("Semester of the
student is " + in[i].sem);
for(int j=0;j<3;j++)
final_mark=in[i].cie_m[j]+((ex[i].s
ee_m[j])/2);
System.out.println("Final Mark of
the student " + (i+1) + " " + " in
course " + (j+1) + " " +
final mark);
                 }
```

```
C:\Windows\System32\cmd.exe
```

```
C:\Users\Praveen\Desktop\ooj>java student_end
Enter the Number of students : 2
Enter the details of the student 1:
Enter usn of the student : 123
Enter name of the student : joey
Enter semester of the student : 2
Enter the CIE marks :
Enter marks of the course 1: 35
Enter marks of the course 2: 46
Enter marks of the course 3: 44
Enter the SEE marks :
Enter the SEE marks of the course 1: 88
Enter the SEE marks of the course 2: 77
Enter the SEE marks of the course 3: 89
Enter the details of the student 2:
Enter usn of the student : 456
Enter name of the student : rachel
Enter semester of the student : 2
Enter the CIE marks :
Enter marks of the course 1: 40
Enter marks of the course 2: 38
Enter marks of the course 3: 45
Enter the SEE marks :
Enter the SEE marks of the course 1: 89
Enter the SEE marks of the course 2: 95
Enter the SEE marks of the course 3: 90
Details Of The Student 1
USN of the student is 123
Name of the stuednt is joey
Semester of the student is 2
Final Mark of the student 1 in course 1 79
Final Mark of the student 1 in course 2 84
Final Mark of the student 1 in course 3 88
Details Of The Student 2
USN of the student is 456
Name of the stuednt is rachel
Semester of the student is 2
Final Mark of the student 2 in course 1 84
Final Mark of the student 2 in course 2 85
Final Mark of the student 2 in course 3 90
          Q
  \blacksquare
```

Lab Program-7(27/11/2020)

Write a program to demonstrate generics with multiple object parameters.

Write a program to demonstrate generics with multiple object parameters.

```
import java . 90 . #;
     Porport java lang . *;
     import java · utl · *;
dass gen < T >
     gen (T 0)
      void chowtype ()
 System out . println ("Type of T is" + object Class () get Name ())
 class generic
 public void main (string E) anys)
   string n;
  Scannel Se = new Scenner (System.in);
System-out println ("Enter the Integer number to be
      Dieplayed using the generic gotte");
             n = sc. next();
    gn < Integer > old = new gen < Integer > (Integer : panse Int(n))
           Obl. showtype ();
```

```
ent val = obl.getob();
System out . println (" Value is : " + val);
  System out println ();
System out printle ("Enter the string to Be Displayed Using
        generic sytle ");
             n=sc.next();
       gen < String > ob 2 = new gen < String > (n);
           ob2. showhype ();
           String x = ob2 getob();
         Systemout. println ("Value : " + x);
        System out println ();
   System out printle (" Entel the Double Number to Be Displayed
      Using generic style ");
            n=sc.next();
        gen < Double> 063 = new gen < Double > (Double parse Dodde
                                                        (n)):
          ob3. showtype ();
      double ans = ob3. getab();
    System out println ("Value: " + ans);
   3
```

```
importjava.io
.*;
    import java.lang.*;
    import java.util.*;

    class gen<T>
    {
        T ob;
        gen(T o)
```

```
{
           ob=o;
     }
     T getob()
     {
           return ob;
     void showtype()
System.out.println("Type of T is " +
ob.getClass().getName());
     }
}
class generic
     public static void main(String[] args)
     {
           String n;
           Scanner sc=new Scanner(System.in);
           System.out.println("Enter the Integer
Number to Be Displayed Using the generic style");
           n=sc.next();
           gen<Integer> ob1=new
gen<Integer>(Integer.parseInt(n));
           ob1.showtype();
           int val=ob1.getob();
           System.out.println("Value is: " + val);
           System.out.println();
           System.out.println("Enter the String to
Be Displayed Using the generic style");
           n=sc.next();
           gen<String> ob2=new gen<String>(n);
           ob2.showtype();
           String x=ob2.getob();
           System.out.println("Value : " + x);
           System.out.println();
System.out.println("Enter the Double Number to Be
Displayed Using the generic style");
n=sc.next();
```

```
gen<Double> ob3=new
gen<Double>(Double.parseDouble(n));
ob3.showtype();
double ans=ob3.getob();
System.out.println("Value : " + ans);
}
}
```

```
D:\Java file\OOJ-lab-codes>cd Lab program 7

D:\Java file\OOJ-lab-codes\Lab program 7>javac Lab7.java

D:\Java file\OOJ-lab-codes\Lab program 7>java Lab7

The type of object java.lang.Integer

Object Value 88

The type of object java.lang.Double

Object Value 88.889

The type of object java.lang.String

Object Value abcdefghij

The type of object java.lang.Integer

Object Value 12
```

Lab Program-8(27/11/2020)

Write a program that demonstrates handling of exceptions in inheritance tree. Create a base class called "Father" and derived class called "Son" which extends the base class. In Father class, implement a constructor which takes the age and throws the exception WrongAge() when the input age<0. In Son class, implement a constructor that cases both father and son's age and throws an exception if son's age is >=father's age.

Write a program that demonstrates handling expections in inheritance tree. Create a

base class called "Father" and derived class "Son" which extends the base dass.

In Father class, implement a construct which takes the age and throws the expectional Wrong Age () when the input age < 0. In son class, implement a constructor that cases both father and soo's age throws an expection of son's age is >= father's age.

Perport java wil . a ;

class Wrong Age extends Exception &

int detail;

Wrong Age (int A) {

detail = a :

public string to String () }

return "enter correct age "+ detail" is invalid";

)

class father &

Public ent age;

Scanner in = new Scanner (System.in);

father () throws wrong age &

System out . print ("Enter Father's age :");

age = in . nextint ();

of (gue 0)

& throws new Wrog Age (age);

```
class son extends father of
Scarnel in = new Scannel (System . In);
    ent fage;
  Son (tather f) throws wrong Age of
    this. tage -f. age;
System out print ("Enter son's age: ");
    this age = in-next(nt();
      if (this age co)
   throw new wrong Age (age);
      if (this age > f age)
    throw new wrong Age (age);
 class ages {
  poblic Static void noin (String angs [7) }
      try {
        father f = new father ();
         Son s = new son(f);
    catch (Exception e) of
     Systemout printla (e);
```

```
importjava.util.*;
                     class WrongAge extends Exception {
                      int detail;
                      WrongAge(int a) {
                       detail = a;
                      public String toString() {
                       return "enter correct age "+detail+" is
                     invalid";
                      }
                     }
                     class father{
                      public int age;
                      Scanner in =new Scanner(System.in);
                      father() throws WrongAge{
                     System.out.print("Enter the father's age :");
                       age= in.nextInt();
                       if(age<0)
                         throw new WrongAge(age);
                      }
                     }
                     class son extends father{
                      Scanner in =new Scanner(System.in);
                      int fage;
                      son(father f) throws WrongAge{
                       this.fage=f.age;
                       System.out.print("Enter the son's age :");
                       this.age= in.nextInt();
                       if(this.age<0)</pre>
                         throw new WrongAge(age);
                       if(this.age>f.age)
                         throw new WrongAge(age);
                      }
                     }
                     class ages{
                      public static void main(String[] args){
                       try{
                        father f= new father();
                        son s= new son(f);
                       }
                       catch(Exception e){
                         System.out.println(e);
                      }
                      }
```

```
Microsoft Windows [Version 10.0.18363.1198]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Praveen\Desktop\ooj>javac ages.java

C:\Users\Praveen\Desktop\ooj>java ages
Enter the father's age :35
Enter the father's age :35
Enter the son's age :22

C:\Users\Praveen\Desktop\ooj>java ages
Enter the father's age :54
Enter the father's age :54
Enter the father's age :45

C:\Users\Praveen\Desktop\ooj>java ages
Enter the father's age :54
Enter the father's age :55
enter correct age 65 is invalid

C:\Users\Praveen\Desktop\ooj>

C:\Users\Praveen\Desktop\ooj>
```

Lab Program-9(11/12/2020)

Write a program which creates two threads, one thread displaying "BMS College of Engineering" once every ten seconds and another displaying "CSE" once every two seconds.

```
Write a program which creates two threads, one thread displaying "BMS college of Engineering" once every ten seconds and another displaying "CSE" once every two seconds.
```

```
class Thread implements Rumable of
    Thread t;
    String name;
  Thread (String name) &
     this name = name;
     t = new thread (this, this name);
      + · start ;
     public word run() &
       try &
           tor (ant 9=0; 96 20; i++) {
          Systemout printle ("(SE dept ");
              Thread sleep (2000);
       I catch (Interrupted Exception e) of
              System out println(e);
       4
       class Thread & implements Rumable of
                Thread + ;
               String name ;
          Thread? (String name) §
               this name = name;
             t = new Thread (this, this. name);
```

to-start();

```
Public word run() }
       tryq
           for (int = 0; 165; 1++)
System out printle ("BMs college of Engineering");
        Thread . sleep (10000);
  I catch (Interropted Exception e) {
      System out println (e);
class lab Program 9 }
  Public static void main (String [] angs) &
Thread doj 1 = new Thread (" Dept name");
Thread 2 obj 2 = new Thread 2 ("College name");
11 System out printle (obj! name + " + obj! + isAleve()).
11 Syptem out printle (obj2. name + " + doj2. + - "s Aleve ());
    try{
          obj1. + . goin ();
          obj2. t. join ();
   I catch (Exception e) {
     System out println ("Interrupted");
```

```
class Thread1
implementsRunnable{
                          Thread t;
                          String name;
                          Thread1(String name){
                              this.name = name;
                              t = new Thread(this,this.name);
                              t.start();
                          }
                          public void run(){
                              try{
                                  for(int i=0;i<20;i++){
                                  System.out.println("CSE dept");
                                      Thread.sleep(2000);
                                  }
                              }
                      catch(InterruptedException e){
                                  System.out.println(e);
                              }
                          }
                      }
                      class Thread2 implements Runnable{
                          Thread t;
                          String name;
                          Thread2(String name){
                              this.name = name;
                              t = new Thread(this,this.name);
                              t.start();
                          public void run(){
                              try{
                                  for(int i=0;i<5;i++){
                       System.out.println("BMS college of
                      Engineering");
                                      Thread.sleep(10000);
                                  }
                              }
                      catch(InterruptedException e){
                                  System.out.println(e);
                              }
                          }
                      }
                      class labProgram9{
```

public static void main(String[] args){

```
C:\Windows\System32\cmd.exe
                                                                                                                                     \times
C:\Users\Praveen\Desktop\ooj>javac labProgram9.java
 :\Users\Praveen\Desktop\ooj>java labProgram9
CSE dept
BMS college of Engineering
CSE dept
CSE dept
SE dept
CSE dept
BMS college of Engineering
CSE dept
CSE dept
CSE dept
BMS college of Engineering
 SE dept
CSE dept
CSE dept
CSE dept
BMS college of Engineering
CSE dept
CSE dept
CSE dept
 SE dept
MS college of Engineering
 \Users\Praveen\Desktop\ooj>
```

Lab Program-10(11/12/2020)

Write a program that creates a user interface to perform integer divisions of Num1 and Num2. The division of Num1 and Num2 is displayed in the Result field when the Divide button is clicked. If Num1 and Num2 were not an integer, the program would throw a NumberFormatException. If Num2 were Zero, the program would throw an Arithmetic Exception Display the exception in a message dialog box.

```
NAME : SAIPRAVEEN MAR
                   LAB - 10
                                           USN: 18M19CS138
Write a program that creates a use interface to
 perform integer divisions. The user enters two numbers
 in text fields. Num! and Num? . The division of Num!
 and Nume is displayed in the Result Held when the
 divide botton is elicked. It would or work not
 an enteger, the program would throw a Number Former
 Exception. If Num2 were zelo, the program would thou
  an Arithmetic Expection Desplay the excaption in menage
 dialog box.
         import java auch . Bordel Layout ;
         Import java. aust. Button;
         emport java. aut. color;
         import java. aust: Dralog;
         import java.aut. Flowlayout;
         import java aut Frame;
          Proport Java aut. Braphies;
          Emport Java aust . Insets ;
          emport java out. Label;
          Proport java, aust. Textfield;
          amport java aut event. ActionEvent;
         Export java. aust. event. ActionListence;
         emport jana-aut. event. Text Event;
         import jana aust . went . Text lesteres;
          import java aut . event . werdow Adapte ;
          import java aut. went. Window Event;
      public class Lablo extends France implements Action listened
             Textfield t1, +2;
             string mag = " ";
              Button btn;
             Lablol) J
                   Label 14 = new Label ("Frot Danker: "Label. RIGH
```

```
t1 = new Textfield (10);
  latel 12 = new Latel ("Second Number:", Label-RIGHT);
           te- new Text Field (10);
      btn = new Button ("Submit");
       Alabel 1 = new Label ("Updates: ");
         11 - set Background (color. Yellow);
         La. set Background (wolor, YELLOW);
       11 this set Risizable (false);
          this add (11);
          this add (+1).
         this - odd (12);
          this add (t2);
If the following command will make sure that enpot char es
                not visable to the used.
Il (It has been added just to demostrate). can be used
   for passwords.
   11+1. set Echochar ('+');
   11 ta.set EchoChar ('#1);
      this add (btn , Bordeilayout . CENTER);
       this set Ussible (true);
       this set Size (600, 300);
  this setlayout (new Flowlayout (Flowlayout . CENTER, 20, 10))
      11+1. add Action listence (this);
       btn. add Action Listence (thes);
     add wendow listered (new my wendow ());
        Set Background ( Color. 4 ELLOW).
     11 Syptem out printly (Borderlayout . CENTER);
       @ OverAde
          public Insub get Insuts () }
                 actum new Insch (50,10,10,20);
```

```
@ Overside
Public word action Performed (Action Event e) {
         String et1 = +1. getText();
         String st2 = +2. get Text();
     double n1, n2;
        n1 = 0.0 ;
        02 - 0.0 ;
   if (2+1. equals (" ") 11 st 2. equals (" ")) }
      msg = "You cannot leave the text elements black"
    y else of
           ni - Double, parse Double (Sti);
           n2 = Double parse Double (st 2);
                double res = n1/n2;
              mgg = " Result of devisor : + res;
         I catch (Arthinetic Expection el) }
                  meg = el. tostring();
      y catch (Number Format Exception eiz) of
           mgg = "Enter only numbers and not other things"
 new my Dialog ( this, "Result Dialog", tabe, mgg, n, nz);
        public static word main (string [] ays) }
                  NEO Lablo ().
```

```
class my Otaley extends Otalog : optements Action listened of
 public my Dealog (Frame Dunee, String title, Looken model,
                               strany mgg, double 11, double 02)
      super (owner, tette, modal);
       thes. set Visible (true);
        this set Size (200, 400);
       Hers set layout (new Flowlayout (9);
     Il system out printly (owner);
    Label II - new label (" Updates on the result : ");
        11 11. set Size (300, 20);
        this add (11);
     this add (new tabel ("First Number: "+11);
      this add (new label (" Second Norther: "+n2).
       this add ( new tabel (meg ));
      Button b = new Button ("Close");
        this. add(b);
       boadd Action listence (this);
  this add wendowlistener (new Wendow Adapter ());
         public void window Classing ( window Event e);
           dispose ();
       public word action Performed (ActionEvent e) {
 class mywindow extends window Adapter of
        public void window Closing (Window Event e) {
                System. exit (0);
```

```
import
java.awt.BorderLa
yout;
                    import java.awt.Button;
                                   import java.awt.Color;
                                   import java.awt.Dialog;
                                   import java.awt.FlowLayout;
                                   import java.awt.Frame;
                                   import java.awt.Graphics;
                                   import java.awt.Insets;
                                   import java.awt.Label;
                                   import java.awt.TextField;
                                   import
                                   java.awt.event.ActionEvent;
                                   import
                                   java.awt.event.ActionListener;
                                   import java.awt.event.TextEvent;
                                   import
                                   java.awt.event.TextListener;
                                   import
                                   java.awt.event.WindowAdapter;
                                   import
                                   java.awt.event.WindowEvent;
                                   public class Lab10 extends Frame
                                   implements ActionListener{
                                   TextField t1,t2;
                                   String msg="";
                                   Button btn;
                                   Lab10(){
                                   Label 11 = new Label("First
                                   Number: ",Label.RIGHT);
                                   t1 = new TextField(10);
                                   Label 12 = new Label("Second
                                   Number: ",Label.RIGHT);
                                   t2 = new TextField(10);
                                   btn = new Button("Submit");
                                   //Label 1 = new
                                   Label("Updates:");
                                   11.setBackground(Color.YELLOW);
                                   12.setBackground(Color.YELLOW);
                                   //this.setResizable(false);
                                   this.add(l1);
                                   this.add(t1);
```

this.add(12);
this.add(t2);

```
//the following command will
make sure that the input char is
not visible to the user
//(it has been added just to
demonstrate). Can be used for
passwords.
//t1.setEchoChar('*');
//t2.setEchoChar('#');
this.add(btn,BorderLayout.CENTER
this.setVisible(true);
this.setSize(600, 300);
this.setLayout(new
FlowLayout(FlowLayout.CENTER, 20,
10));
//t1.addActionListener(this);
btn.addActionListener(this);
addWindowListener(new
MyWindow());
setBackground(Color.YELLOW);
//System.out.println(BorderLayou
t.CENTER);
}
@Override
public Insets getInsets() {
return new Insets(50,10,10,20);
}
@Override
public void
actionPerformed(ActionEvent e) {
String st1 = t1.getText();
String st2 = t2.getText();
double n1,n2;
n1 = 0.0;
n2 = 0.0;
if(st1.equals("")||st2.equals(""
)) {
msg="You cannot leave the text
elements blank";
}else{
try {
n1 = Double.parseDouble(st1);
n2 = Double.parseDouble(st2);
try {
double res = n1/n2;
```

```
msg = "Result of division:
"+res;
}catch(ArithmeticException e1) {
msg = e1.toString();
}
catch(NumberFormatException e2)
msg = "Enter only numbers and
not other things";
}
New MyDialog(this, "Result
Dialog",false,msg,n1,n2);
public static void main(String[]
args) {
new Lab10();
}
}
class MyDialog extends Dialog
implements ActionListener{
public MyDialog(Frame owner,
String title, boolean
modal, String msg, double n1,
double n2) {
super(owner, title, modal);
this.setVisible(true);
this.setSize(300, 400);
this.setLayout(new
FlowLayout());
//System.out.println(owner);
Label 11=new Label("Updates on
the result:");
//l1.setSize(300, 20);
this.add(l1);
this.add(new Label("First
Number: "+n1));
this.add(new Label("Second
Number: "+n2));
this.add(new Label(msg));
Button b = new Button("Close");
this.add(b);
b.addActionListener(this);
```

```
this.addWindowListener(new
WindowAdapter() {
public void
windowClosing(WindowEvent e) {
dispose();
}
});
}
@Override
public void
actionPerformed(ActionEvent e) {
dispose();
}
}
class MyWindow extends
WindowAdapter{
public void
windowClosing(WindowEvent e) {
System.exit(0);
}
}
```

OUTPUT:

