

_ SCHOOL

PRACTICAL FILE
OF
INFORMATION TECHNOLOGY
SUBJECT CODE – 802
(SESSION : 2020 - 21)

SUBMITTED TO : _____
SUBMITTED BY : _____
BOARD ROLL NO : _____
CLASS : **XII**

EXPERIMENT.NO:- 1

Objective: Understanding and using the Radio Button in Real-life application to determine the selection of choice and calculations accordingly.

Task: Develop a Billing application for Happy Shopping- A retail chain involved in sales of Readymade garments. The happy Shopping offers discount to its members holding Platinum, Gold and Silver card.

The 10% discount is given to Platinum card, 8% to Gold Card and 5% to Silver Card holders on sales amount.

The screenshot shows a Java Swing window titled "HAPPY SHOPPING". Inside the window, there are several text input fields and a group box for membership cards. The fields are labeled: "Item name", "Rate (per unit)", "Quantity", "Total amount", "Discount", and "Net amount". To the right of these fields is a group box titled "Membership card" containing three radio buttons labeled "PLATINUM", "GOLD", and "SILVER". Below the radio buttons are two buttons: "Calculate" and "Close".

CODING:-

```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt)
// TODO add your handling code here:
float rt,qty,amt,dis,net;
rt=Float.parseFloat(t.getText());
qty=Float.parseFloat(t2.getText());
amt=rt*qty;
if(RdBtnPlatinum.isSelected()==true)
    dis=amt*10/100;
else if(RdBtnGold.isSelected() == true)
    dis=amt*8/100;
else
    dis=amt*5/100;
net=amt-dis;
TxtAmt.setText(""+amt);
TxtDisc.setText(""+dis);
TxtNet.setText(""+net);
}
```

OUTPUT:

MinimizeMaximizeClose

HAPPY SHOPPING

Item name	Sweet	Membership card ☒ PLATINUM ☐ GOLD ☐ SILVER Calculate Close
Rate (per unit)	200	
Quantity	10	
Total amount	2000.0	
Discount	200.0	
Net amount	1800.0	

EXPERIMENT.NO:- 2

Objective: Understanding and using the Check boxes in Real-life application to determine the selection of choice and calculations accordingly.

Task: Develop an application to find out total score based on the selection done by using check boxes.



CODING:-

```
1 private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    rn.setText(" ");  
    n.setText(null);  
    cb1.setSelected(false);  
    cb2.setSelected(false);  
    cb3.setSelected(false);  
    t1.setText(null);  
    t2.setText(null);  
    t3.setText(null);  
    l.setText(" ");  
}  
  
1 private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    System.exit(0);  
}  
  
1 private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    int i=10,x=0,y=0,z=0;  
    if (cb1.isSelected()==true)  
    {
```

```

8
9 private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
0 // TODO add your handling code here:
1 int i=10,x=0,y=0,z=0;
2 if (cb1.isSelected()==true)
3 {
4     t1.setText(""+i);
5     x= i;
6 }
7 if (cb2.isSelected()==true)
8 {
9     t2.setText(""+i);
0     y=i;}
1 if (cb3.isSelected()==true)
2 {
3     t3.setText(""+i);
4     z=i;}
5 int sum=x+y+z;
6 l.setText(n.getText()+" your total score is "+sum);
7

```

OUTPUT:

Roll No

Name

☒ Community Outreach Programme

☒ Swachh Bharat Abhiyan

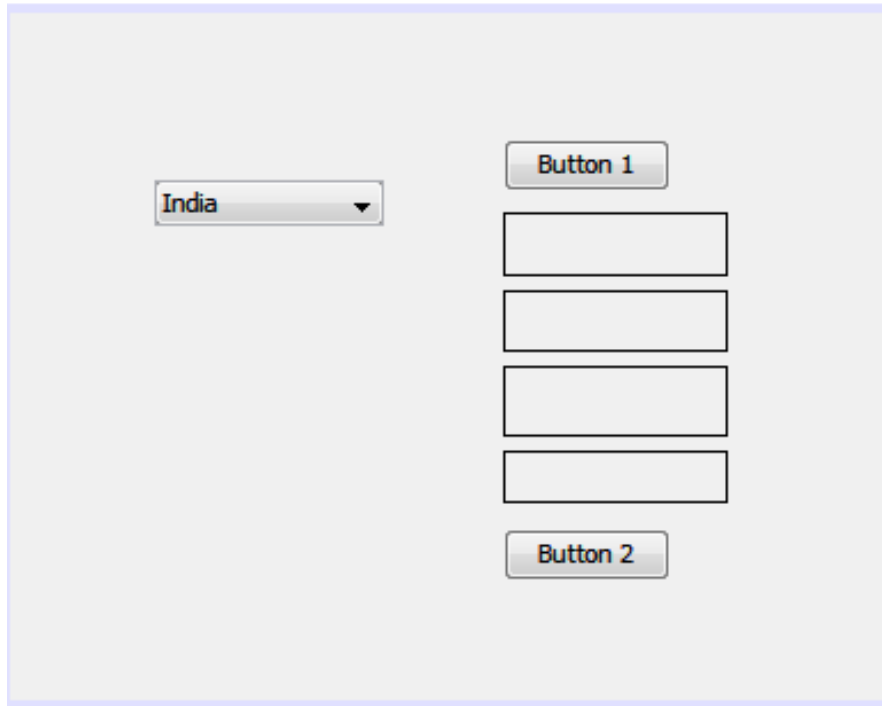
☐ Traffic Safety Club

Total Score

EXPERIMENT.NO:- 3

Objective: Understanding and using the Combo box in Real-life application.

Task: Develop an application determine the selection of choice and calculations accordingly.



CODING:-

```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
  
    cob1.addItem("Air");  
  
    String str=(String)cob1.getItemAt(1);  
    l1.setText(str);  
  
    int x=cob1.getItemCount();  
    l2.setText(""+x);  
  
    int ind=cob1.getSelectedIndex();  
    l3.setText(""+ind);  
  
    String s=(String)cob1.getSelectedItem();  
    l4.setText(s);  
  
    cob1.insertItemAt("America", 3);  
}
```

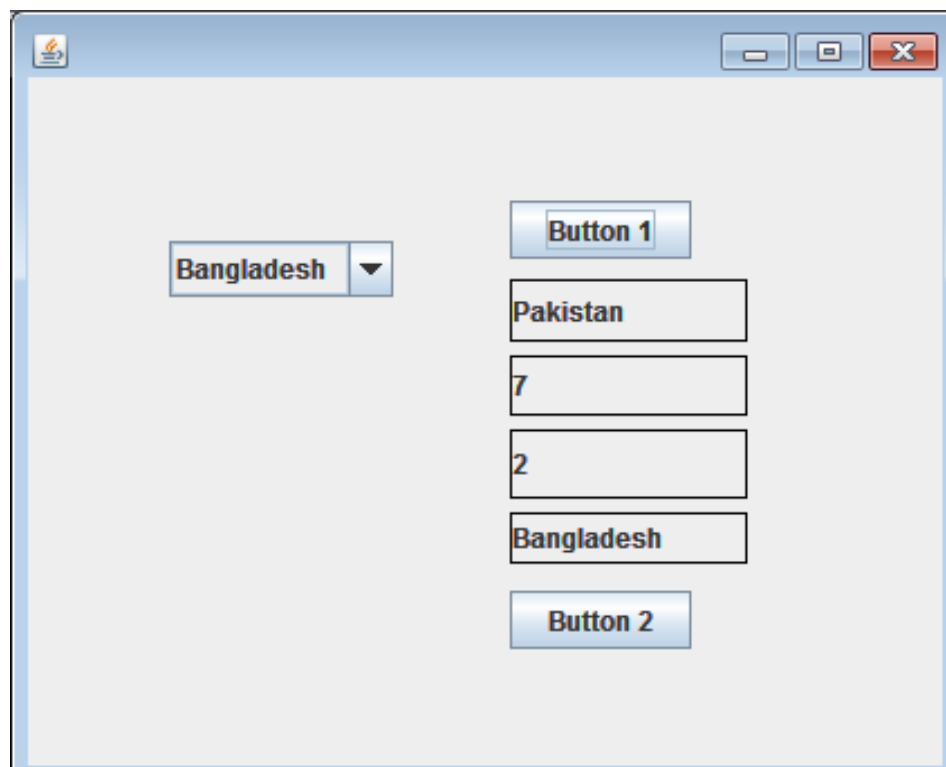
```

7 private void jButton2ActionPerformed(java.awt.event.ActionEvent evt)
8     // TODO add your handling code here:
9     cob1.removeAll();
10    cob1.removeItem("Bhutan");
11    // cob1.removeItemAt(1);
12    cob1.setEditable(true);
13    //cob1.setMaximumRowCount(3);
14    cob1.setSelectedItem("Sri Lanka");
15    // cob1.setSelectedIndex(2);
16 }

17 /**
18  * @param args the command line arguments
19  */
20 public static void main(String args[]) {
21     java.awt.EventQueue.invokeLater(new Runnable() {
22         public void run() {
23             new i().setVisible(true);
24         }
25     }

```

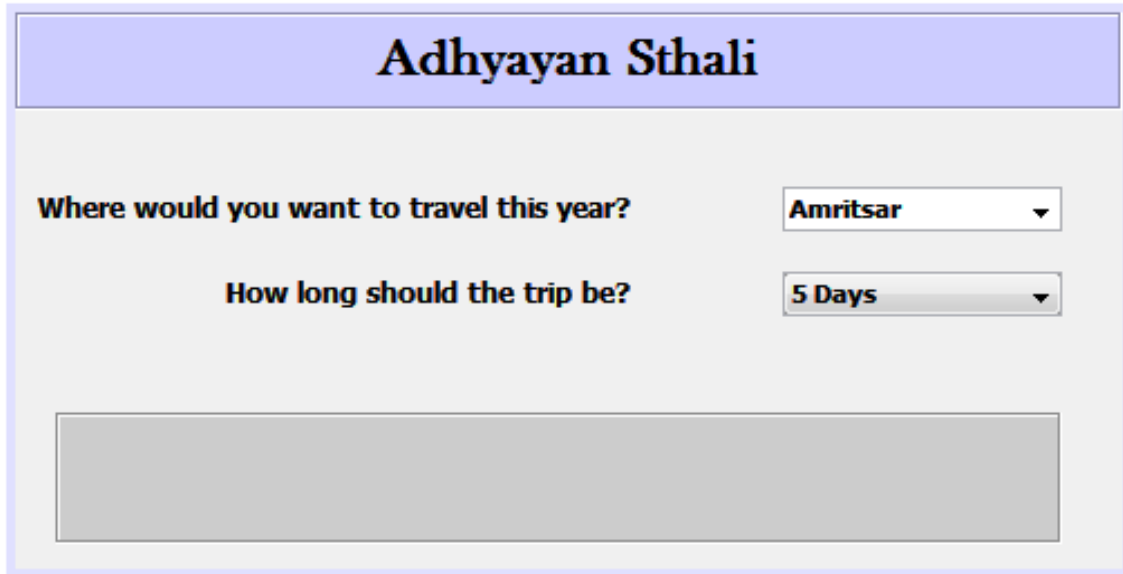
OUTPUT:



EXPERIMENT.NO:- 4

Objective: Understanding and using the combo box in Real-life application

Task: To determine the selection of choice and do the calculations accordingly.

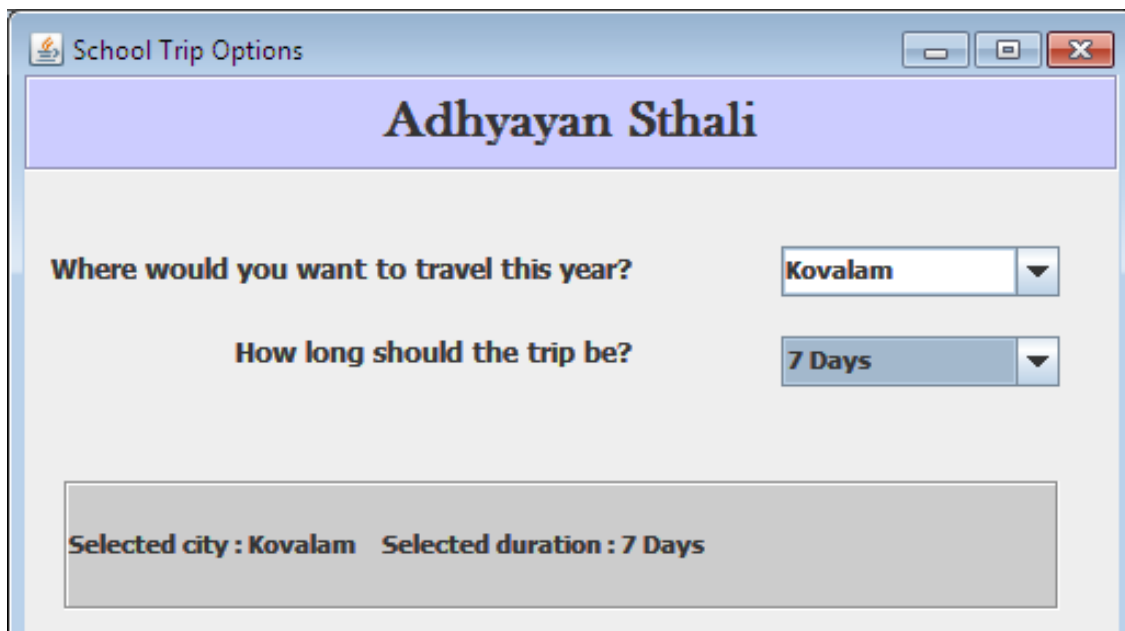


CODING:-

```
private void CityCBActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    String txt = (String) CityCB.getSelectedItem();  
    int i = 0;  
    int length = CityCB.getItemCount();  
    boolean exists = false;  
    for ( ; i < length; ++i) {  
        String item = (String) CityCB.getItemAt(i);  
        if (item.equals(txt)) {  
            exists = true;  
            break;  
        }  
    }  
    if (exists == false)  
        CityCB.addItem(txt);  
    Selection.setText("Selected city : " + txt);  
}
```

```
private void DaysCBActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    String txt = Selection.getText();  
    String dur = (String) DaysCB.getSelectedItem();  
    Selection.setText(txt + " \t Selected duration : "+dur);  
}
```

OUTPUT



The image shows a Java Swing window titled "School Trip Options". The window has a standard title bar with minimize, maximize, and close buttons. The main content area has a light blue header bar with the text "Adhyayan Sthali" in a bold, black, serif font. Below the header, there are two labels and two dropdown menus. The first label is "Where would you want to travel this year?" and the first dropdown menu is set to "Kovalam". The second label is "How long should the trip be?" and the second dropdown menu is set to "7 Days". At the bottom of the window, there is a gray rectangular box containing the text "Selected city : Kovalam Selected duration : 7 Days".

School Trip Options

Adhyayan Sthali

Where would you want to travel this year? **Kovalam**

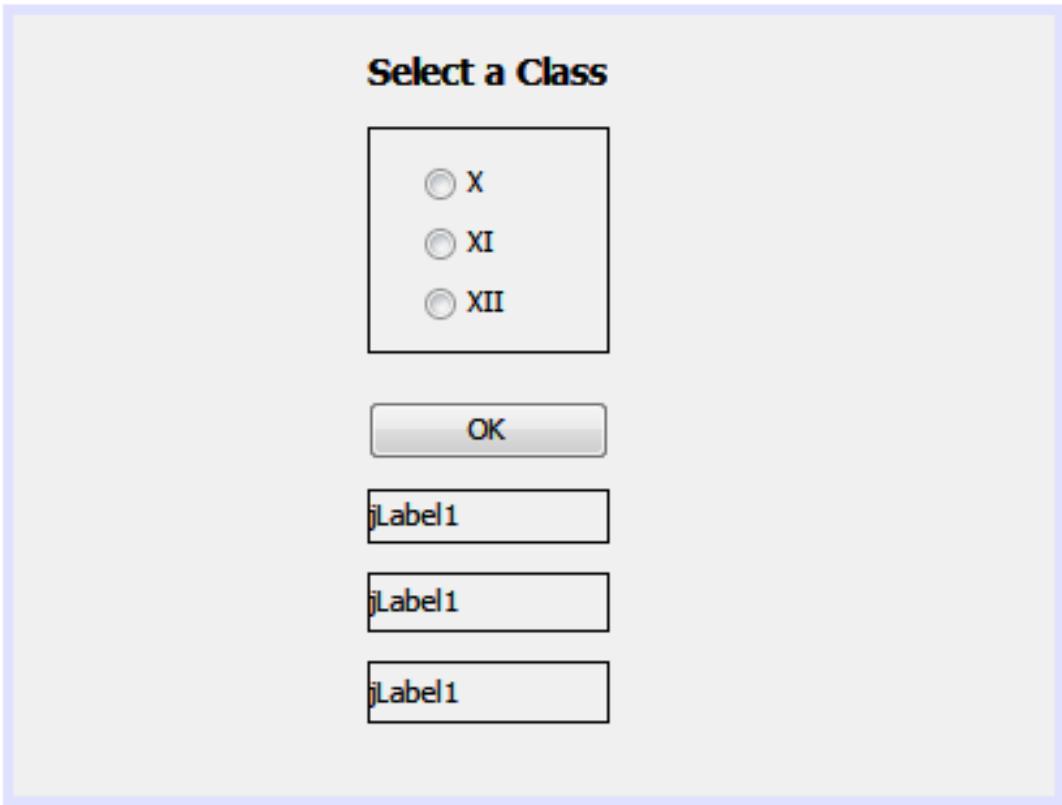
How long should the trip be? **7 Days**

Selected city : Kovalam Selected duration : 7 Days

EXPERIMENT.NO:- 5

Objective: Understanding and using the Radio buttons in Real-life application to determine the selection of choice and calculations accordingly.

Task: Develop an application to find out the selected values of Radio buttons and Print in labels.



The image shows a Java Swing window titled "Select a Class". Inside the window, there is a group box containing three radio buttons labeled "X", "XI", and "XII". Below the group box is an "OK" button. At the bottom of the window, there are three text labels, each containing the text "jLabel1".

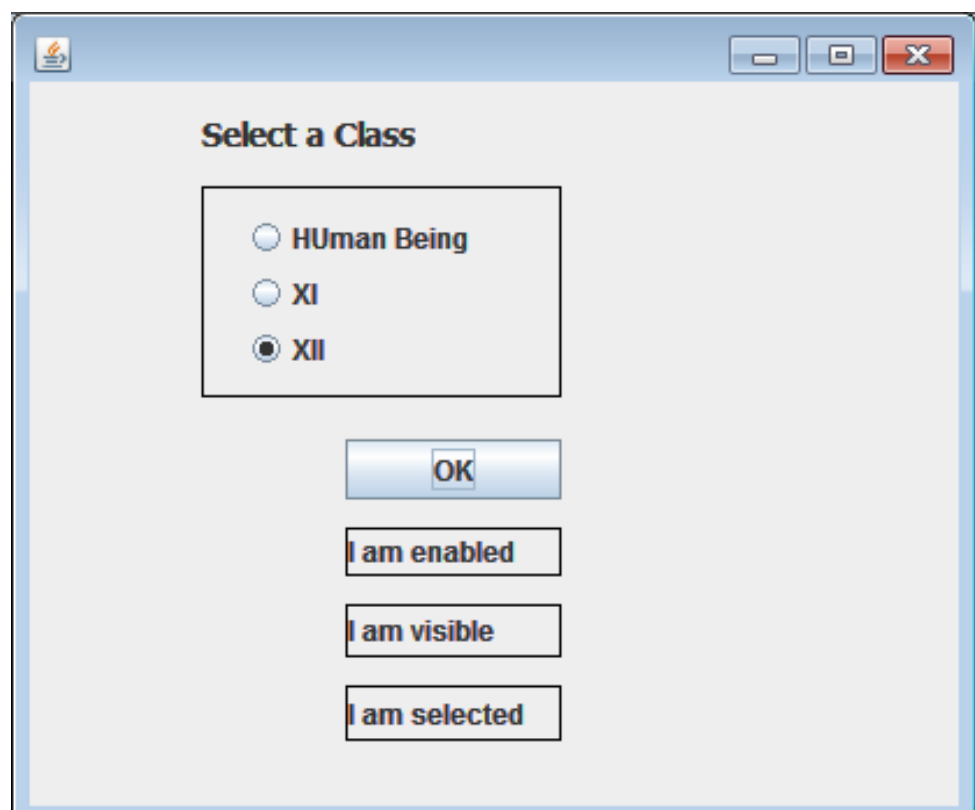
CODING:-

```

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt)
// TODO add your handling code here:
    String str=rb1.getText();
    lb1.setText(str);
    rb1.setText("HUMAN Being");
//    cb2.setEnabled(false);
    if (rb2.isEnabled()==true)
        lb1.setText("I am enabled");
    else
        lb1.setText("I am disabled");
//    cb1.setVisible(false);
    if (rb1.isVisible()==true)
        lb2.setText("I am visible");
    else
        lb2.setText("I am invisible");
    rb3.setSelected(true);
    if (rb3.isSelected()==true)
        lb3.setText("I am selected");
    else
        lb3.setText("I am not selected");

```

OUTPUT:



EXPERIMENT.NO: 6

Objective: Understanding and using the Radio Button in Real-life application to determine the selection of choices and calculations accordingly.

Task: The Entertainment Paradise- A theater in Delhi wants to develop a computerized Booking System. The proposed Interface is given below. The theater offers different types of seats. The Ticket rates are-

Stalls- Rs. 625/-, Circle- Rs.750/-, Upper Class- Rs.850/- and Box- Rs.1000/-.

A discount is given 10% of total amount if tickets are purchased on Cash. In case of credit card holders 5% discount is given.

Theator Booking System

Seat Type

☐ Stalls
 ☐ Circle
 ☐ Uppar Class
 ☐ Box

Payment Mod

☐ Cash
 ☐ Creadit Card

Total Seats

Total Amount:

Discount:

Net Amount:

CODING:-

```

277
278 private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
279
280     // TODO add your handling code here:
281     int st;
282     float amt=0,dis=0,net;
283     st=Integer.parseInt(TxtSeat.getText());
284     if(RdBtnStall.isSelected()==true)
285         amt=st*625;
286     if(RdBtnCircle.isSelected()==true)
287         amt=st*750;
288     if(RdBtnUppar.isSelected()==true)
289         amt=st*850;
290     if(RdBtnBox.isSelected()==true)
291         amt=st*1000;
292     if(RdBtnCash.isSelected()==true)
293         dis=amt*10/100;
294     if(RdBtnCredit.isSelected()==true)
295         dis=amt*5/100;
296     net=amt-dis;
297     TxtAmt.setText(""+amt);
298     TxtDisc.setText(""+dis);
299     jTextField4.setText(""+net);
300
301 }

```

OUTPUT:

Theator Booking System

Seat Type

☒ Stalls ☐ Circle ☐ Uppar Class ☐ Box

Payment Mod **Total Seats**

☒ Cash ☐ Creadit Card

Total Amount:

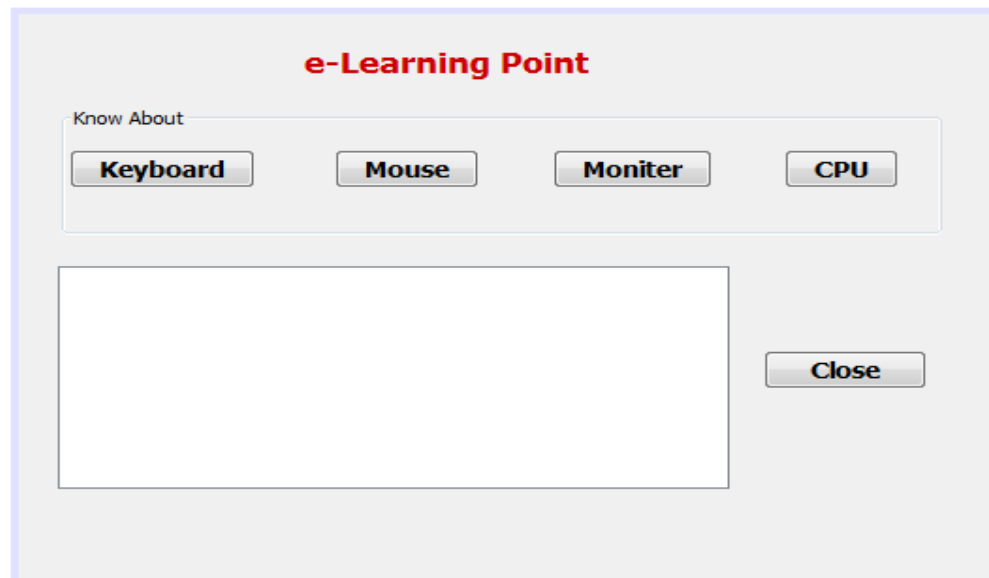
Discount:

Net Amount:

EXPERIMENT.NO: 7

Objective: Displaying images on a Label and Text Area control.

Task: Develop an e-Learning application with images and text information as per given screen shot.



CODING:-

```

159 private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
160     // TODO add your handling code here:
161     JTextArea1.setText("");
162     JTextArea1.append("Key Board is an input device."+'\n');
163     JTextArea1.append("Which facilitates user to input text data."+'\n');
164     JTextArea1.append("It has Alphabets keys, Numeric keys, Arrow keys and control keys");
165 }
166
167 private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
168     // TODO add your handling code here:
169     JTextArea1.setText("");
170     JTextArea1.append("Mouse is a pointing device."+'\n');
171     JTextArea1.append("Which facilitates user to select something on the screen"+'\n');
172     JTextArea1.append("It has two or three buttons.");
173 }
174
175 private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {
176     // TODO add your handling code here:
177     JTextArea1.setText("");
178     JTextArea1.append("Monitor is an softcopy output device."+'\n');
179     JTextArea1.append("Which facilitates user to see text, movie on the screen"+'\n');
180     JTextArea1.append("It may be TFT or CRT in different sizes.");
181 }

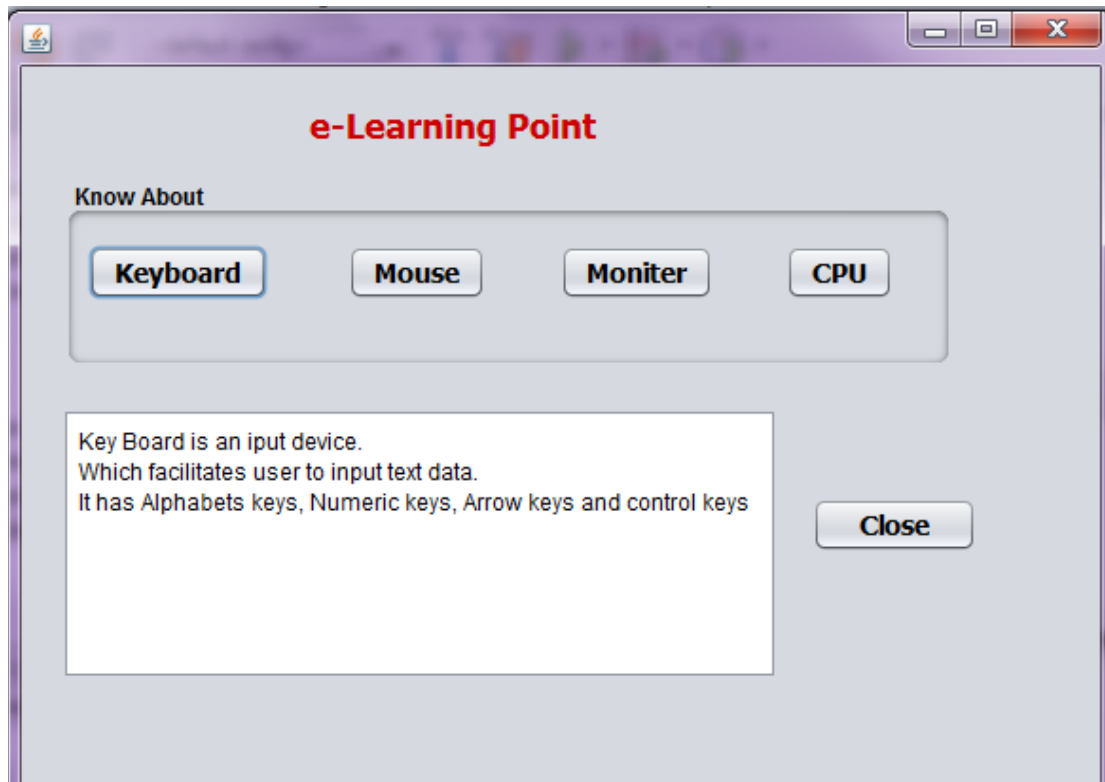
```

```

182
183 private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {
184     // TODO add your handling code here:
185     JTextArea1.setText("");
186     JTextArea1.append("Central Processing Unit (CPU) works as a brain of computer"+'\n');
187     JTextArea1.append("Which contains CU, ALU and Memory."+'\n');
188     JTextArea1.append("It has a chip called Microprocessor");
189 }
190
191 private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {
192     // TODO add your handling code here:
193     System.exit(0);
194 }

```

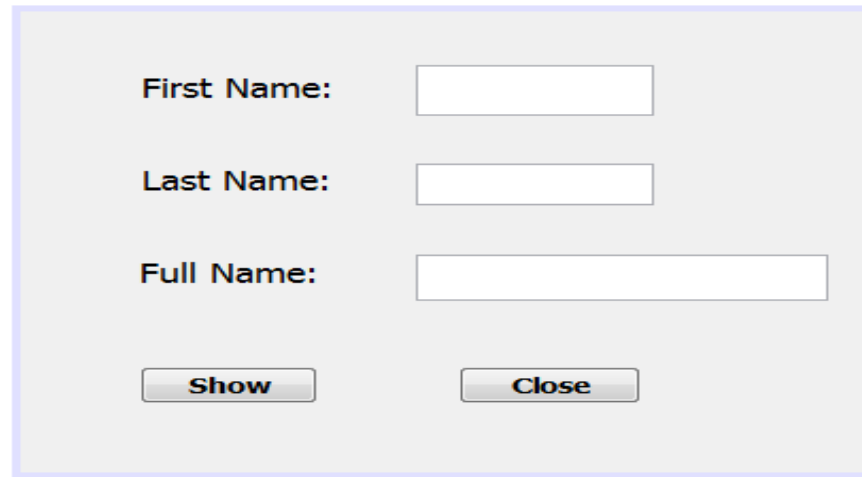
OUTPUT:



EXPERIMENT.NO:8

Objective: To concatenate two strings.

Task: To read two string value from two text fields and print in the third text field after concatenating them.



First Name:

Last Name:

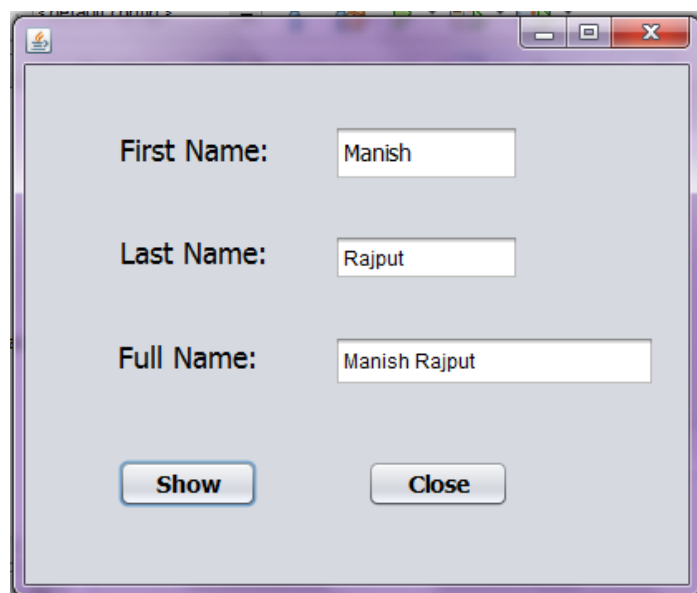
Full Name:

Show Close

CODING:-

```
123
124 private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
125     // TODO add your handling code here:
126     TxtFullName.setText(TxtFName.getText()+" "+TxtLName.getText());
127 }
128
129 private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
130     // TODO add your handling code here:
131     System.exit(0);
132 }
```

OUTPUT:



First Name: Manish

Last Name: Rajput

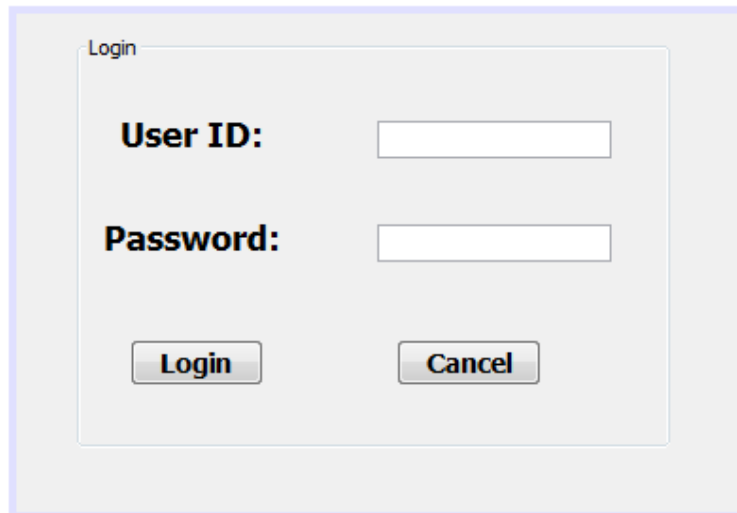
Full Name: Manish Rajput

Show Close

EXPERIMENT.NO: 9

Objective: Understanding the concept of text field and password fields

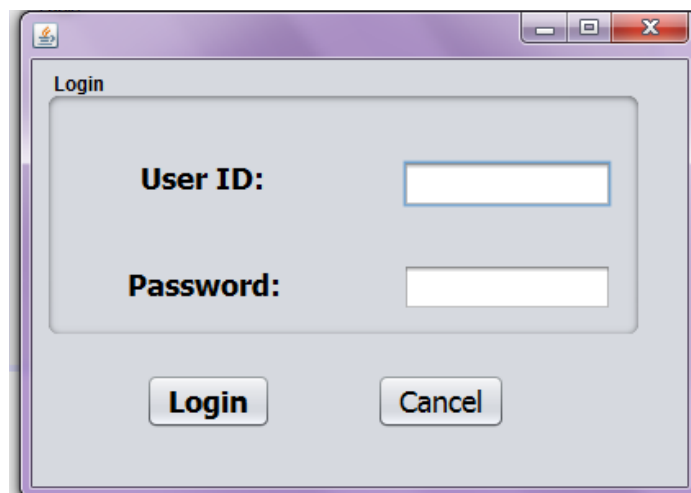
Task: To check whether the given user id and password is correct or not.



Coding :

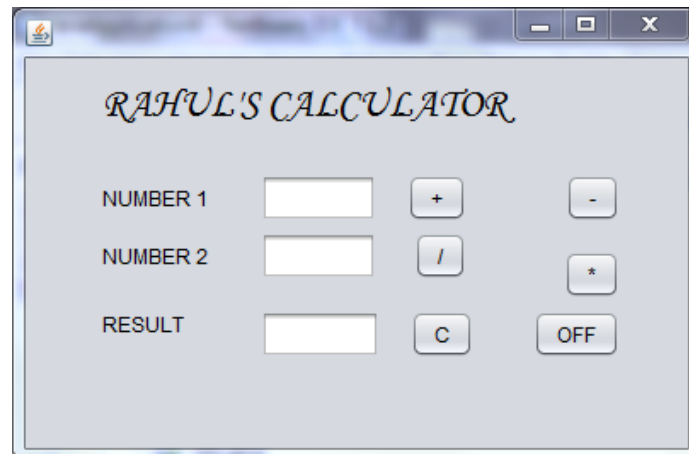
```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {  
    String pwd;  
    pwd = new String(jPasswordField1.getPassword());  
    if(pwd.equals("password"))  
        JOptionPane.showMessageDialog(null," You have logged successfully");  
    else  
        JOptionPane.showMessageDialog(null," Incorrect User ID or password");  
}  
  
private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {  
    // TODO add your handling code here:  
    System.exit(0);  
}
```

Output:



Objective: Understanding and use of variables of float and other data types.

Task: Develop a simple Calculator application as per given screen snapshot, to implement +, -, x and / operations. The text boxes get cleared when 'C' button is clicked.



CODING:-

```
private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {  
    float x,y,z;  
    x=Float.parseFloat(x1.getText());  
    y=Float.parseFloat(x2.getText());  
    z=x*y;  
    x3.setText(""+z);  
    // TODO add your handling code here:  
}
```

```
private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {  
    float x,y,z;  
    x=Float.parseFloat(x1.getText());  
    y=Float.parseFloat(x2.getText());  
    z=x/y;  
    x3.setText(""+z);  
    // TODO add your handling code here:  
}
```

```
private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {  
    x1.setText("");  
    x2.setText("");  
}
```

```
private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {  
    float x,y,z;  
    x=Float.parseFloat(x1.getText());  
    y=Float.parseFloat(x2.getText());  
    z=x-y;  
    x3.setText(""+z);  
}
```

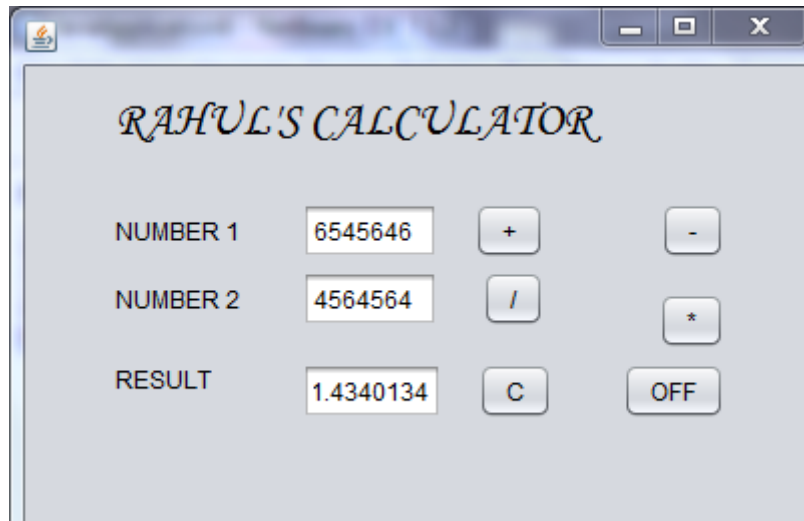
```

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
float x,y,z;
    x=Float.parseFloat(x1.getText());
    y=Float.parseFloat(x2.getText());
    z=x+y;
    x3.setText(""+z);

private void jButton6ActionPerformed(java.awt.event.ActionEvent evt) {
System.exit(0);      // TODO add your handling code here:
}

```

OUTPUT:



EXPERIMENT.NO: 11

Objective: Understanding the concept of nested if conditions

Task: To calculate the total marks, percentage and grades on the basis of percentage as given below.

Percentage	Grades
≥ 90	A+
≥ 80	A
≥ 70	B
≥ 60	C
≥ 50	D
≥ 40	E
< 40	F

CAMBRIDGE INTERNATIONAL SCHOOL KAPURTHALA

Name

Class Roll no

English

Hindi

Science

Social sc.

Maths

Total Marks

Percentage

Grade

Calculate Close

CODING:-

```
private void XActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}
```

```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    float eng,hin,sc,ssc,math,tm,per;      String gr;
    eng=Float.parseFloat(X.getText());
    hin=Float.parseFloat(X1.getText());
    sc=Float.parseFloat(X2.getText());
    ssc=Float.parseFloat(X3.getText());
    math=Float.parseFloat(X4.getText());
    tm=eng + hin + sc + ssc + math;
    per=tm*100/500;
    if(per>=90)
        gr="A+";
    else if(per>=80)
        gr="A";
    else if(per>=70)
        gr="B";
    else if (per>=60)
        gr="C";
}
```

```

else if (per>=50)
    gr="D";
else if (per>=40)
    gr="E";
else
    gr="F";
l.setText(""+tm);
m.setText(""+per);
p.setText(gr);

```

```

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    System.exit(0);
}

```

OUTPUT:

CAMBRIDGE INTERNATIONAL SCHOOL KAPURTHALA

Name:

Class: Roll no:

English	50
Hindi	50
Science	66
Social sc.	60
Maths	30

Total Marks:

Percentage:

Grade:

EXPERIMENT.NO:- 12

Objective: Understanding the concept of Text Area

Task: To print the mathematical table of the number entered by the user using While and Do While loop.

Printing Mathematical Table

Enter the number

Coding:

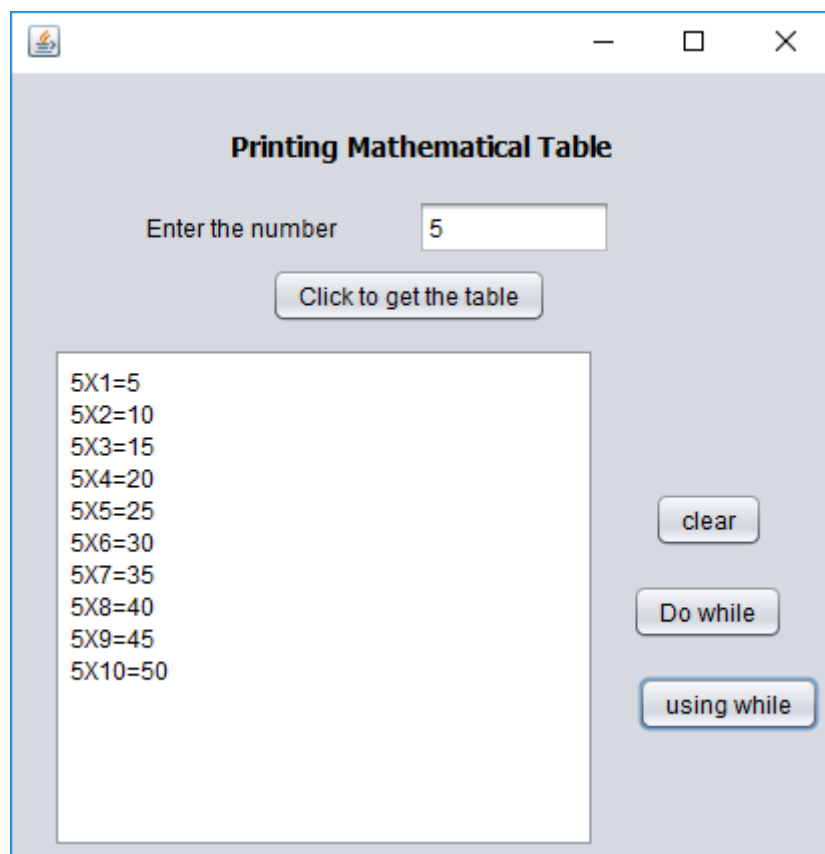
```
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    int p,i;
    int x = Integer.parseInt(t.getText());
    for (i=1;i<=10;i++)
    {
        p=x*i;
        ta.append(""+x+"X"+i+"="+p+"\n");
    }
}
```

```
private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    int p,i;
    i=1;
    int x = Integer.parseInt(t.getText());
    while(i<=10)
    {
        p=x*i;
        ta.append(""+x+"X"+i+"="+p+"\n");
        i++;
    }
}
```

```
private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    int p,i;
    i=1;
    int x = Integer.parseInt(t.getText());
    do
    {
        p=x*i;
        ta.append(""+x+"X"+i+"="+p+"\n");
        i++;
    }while(i<=10);
}
```

```
private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    ta.setText(null);
}
```

Output:

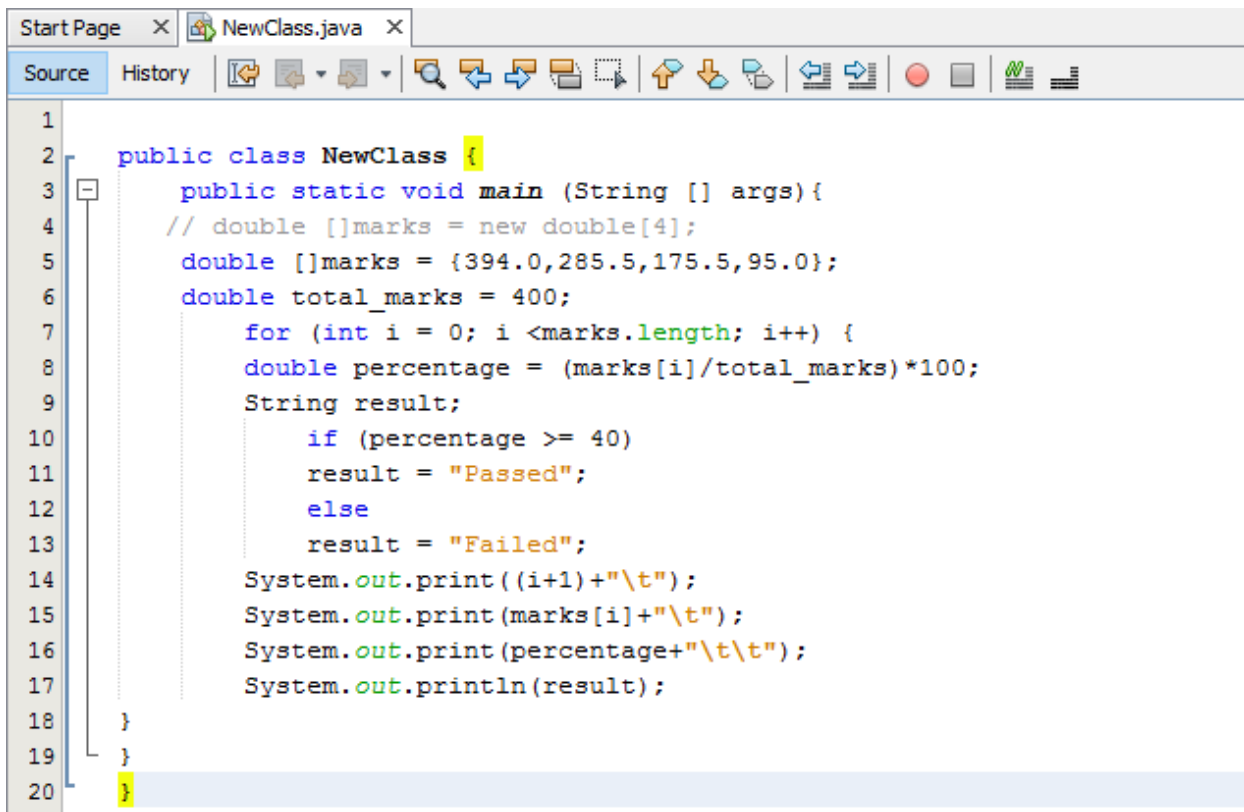


EXPERIMENT.NO:- 13

Objective: Understanding the concept of classes and arrays

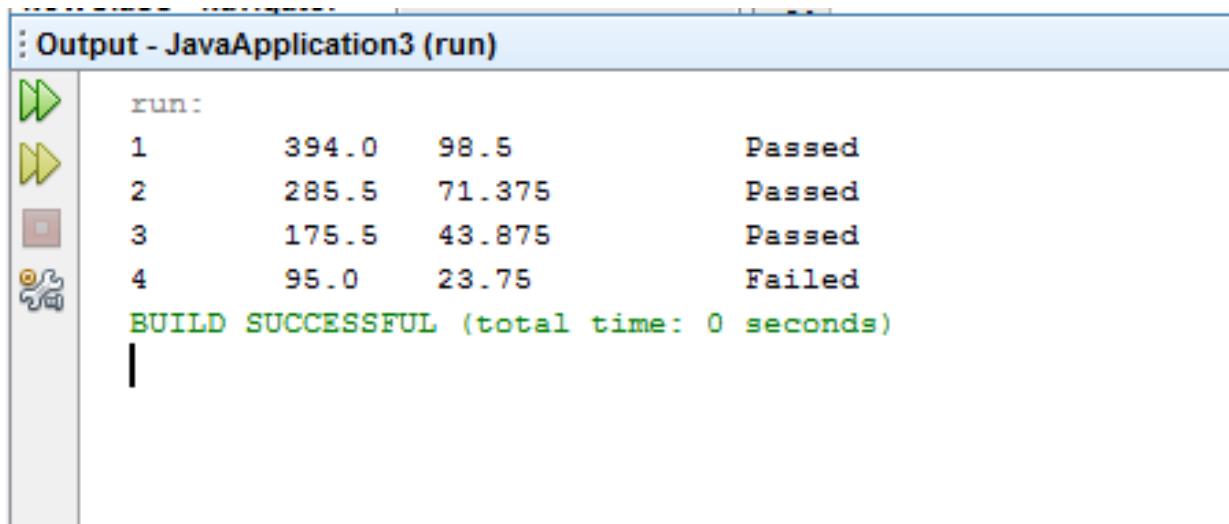
Task: To print the marks of four students and their result using arrays.

Coding:



```
1 public class NewClass {
2     public static void main (String [] args){
3         // double []marks = new double[4];
4         double []marks = {394.0,285.5,175.5,95.0};
5         double total_marks = 400;
6         for (int i = 0; i <marks.length; i++) {
7             double percentage = (marks[i]/total_marks)*100;
8             String result;
9             if (percentage >= 40)
10                result = "Passed";
11            else
12                result = "Failed";
13            System.out.print((i+1)+"\t");
14            System.out.print(marks[i]+" \t");
15            System.out.print(percentage+"\t\t");
16            System.out.println(result);
17        }
18    }
19 }
20 }
```

Output:



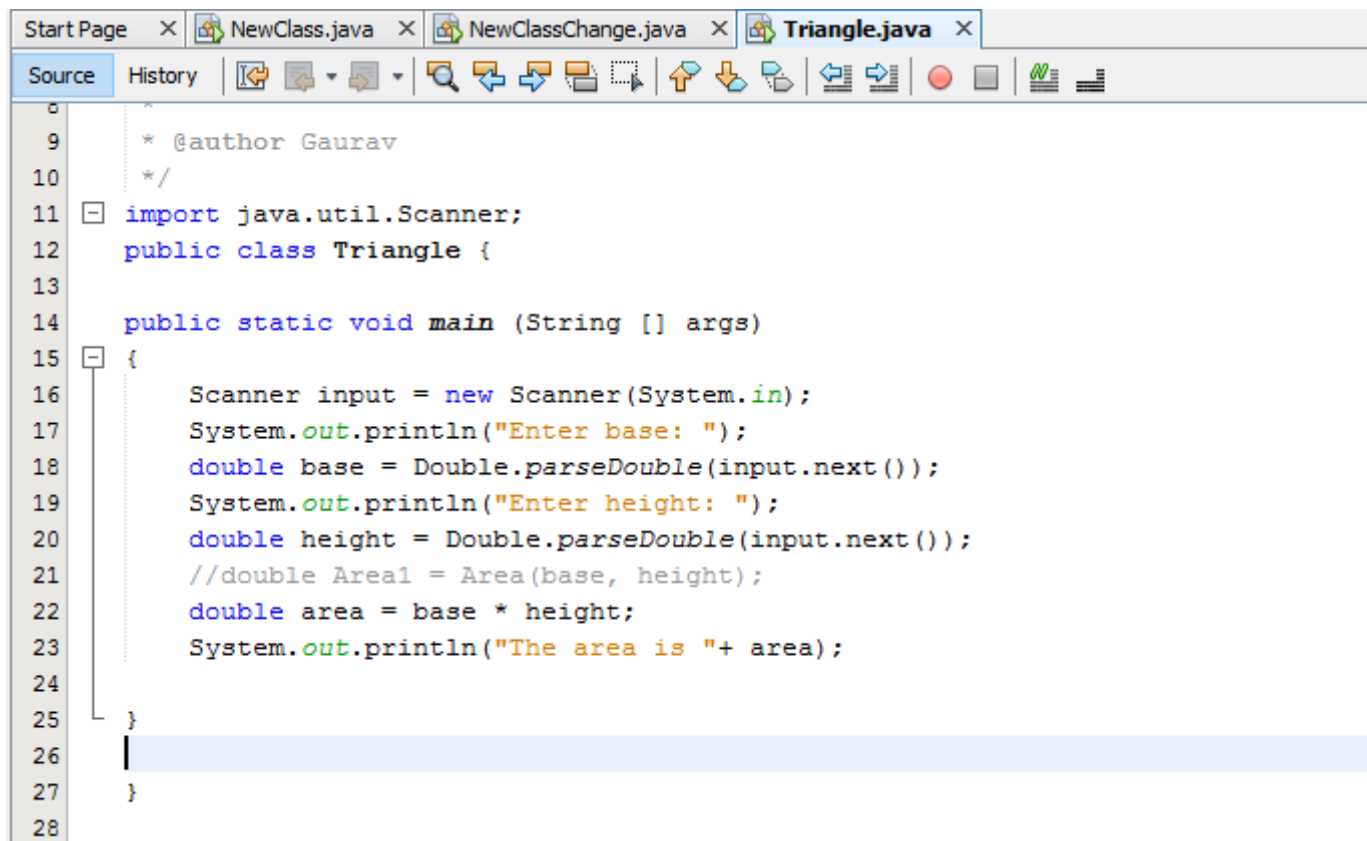
```
Output - JavaApplication3 (run)
run:
1      394.0    98.5      Passed
2      285.5    71.375    Passed
3      175.5    43.875    Passed
4       95.0    23.75     Failed
BUILD SUCCESSFUL (total time: 0 seconds)
```

EXPERIMENT.NO:- 14

Objective: Understanding the concept of classes and arrays.

Task: To get the base and height as input from the user and print the area of triangle using the concept of classes.

Coding:



```
Start Page x NewClass.java x NewClassChange.java x Triangle.java x
Source History
9      * @author Gaurav
10     */
11     import java.util.Scanner;
12     public class Triangle {
13
14     public static void main (String [] args)
15     {
16         Scanner input = new Scanner(System.in);
17         System.out.println("Enter base: ");
18         double base = Double.parseDouble(input.next());
19         System.out.println("Enter height: ");
20         double height = Double.parseDouble(input.next());
21         //double Area1 = Area(base, height);
22         double area = base * height;
23         System.out.println("The area is "+ area);
24     }
25 }
26
27 }
28
```

Output:

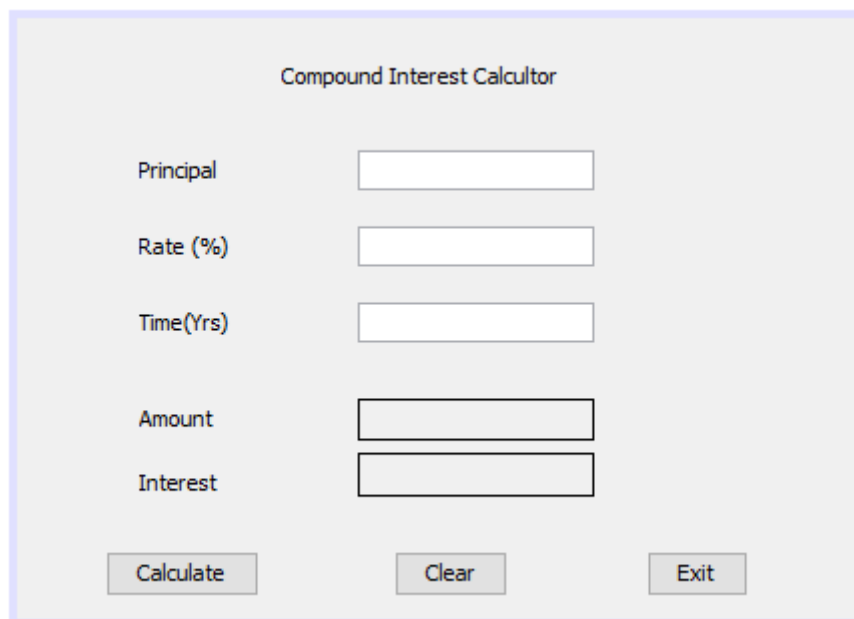
```
Output - JavaApplication3 (run)

run:
Enter base:
10
Enter height:
20
The area is 200.0
BUILD SUCCESSFUL (total time: 5 seconds)
|
```

EXPERIMENT.NO:- 15

Objective: Understanding the concept of text fields, labels and buttons.

Task: To calculate and print the compound interest as well as the amount. The principal, Rate and Time will be entered by the user.



Compound Interest Calculator

Principal

Rate (%)

Time(Yrs)

Amount

Interest

Coding:

```

private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    System.exit(0);
}

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    double p = Double.parseDouble(t1.getText());
    double r = Double.parseDouble(t2.getText());
    double t = Double.parseDouble(t3.getText());
    double amount = p*Math.pow((1+r/100),t);
    double i = amount - p;
    l1.setText(""+amount);
    l2.setText(""+i);
}

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    t1.setText("");
    t2.setText(null);
    t3.setText(null);
    l1.setText(null);
    l2.setText(null);
}
}

```

Output:

Compound Interest Calculator

Principal	2000
Rate (%)	15
Time(Yrs)	2
Amount	2644.9999999999995
Interest	644.9999999999995

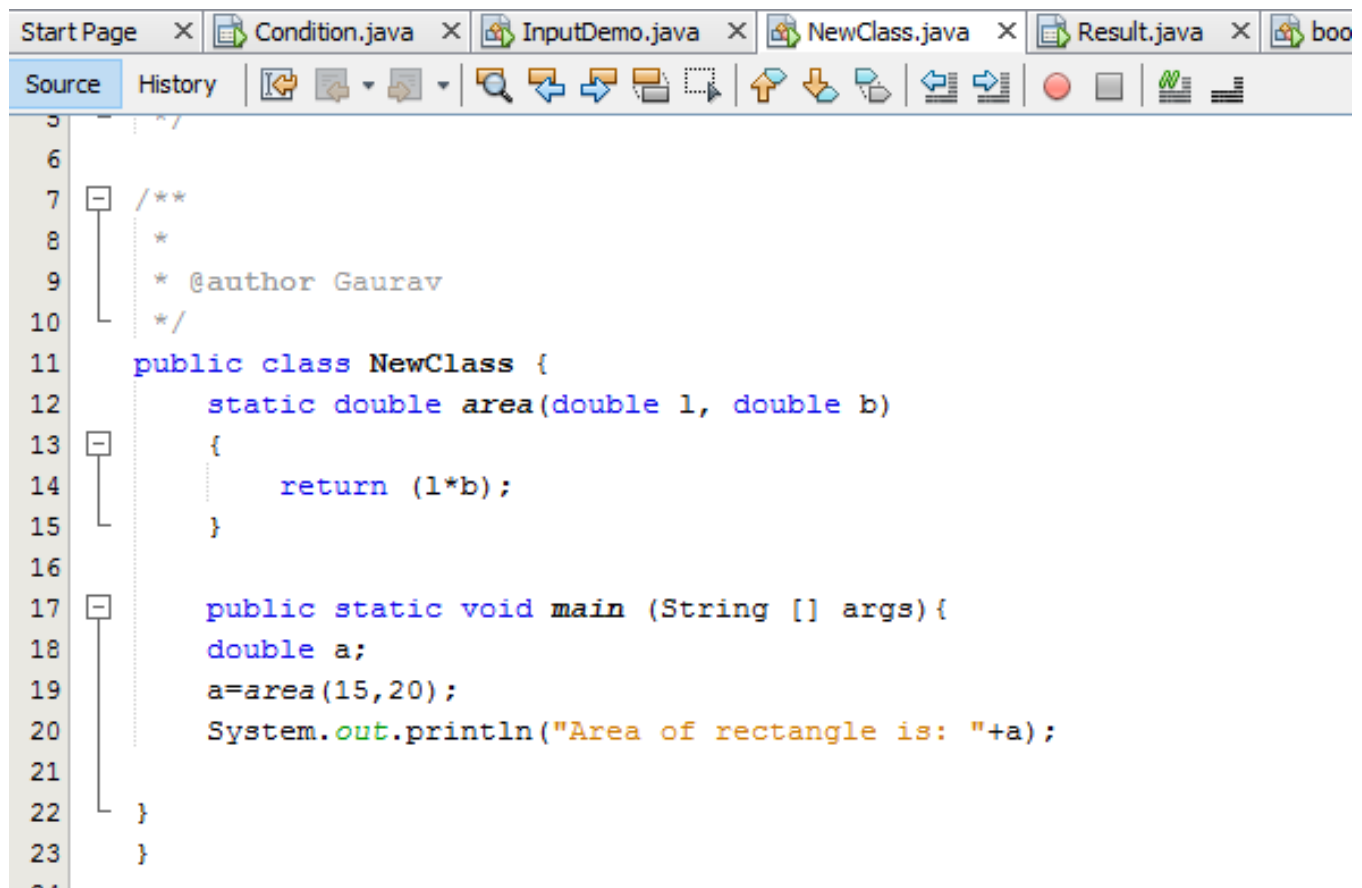
Calculate Clear Exit

EXPERIMENT.NO:- 16

Objective: Understanding the concept of user defined functions in classes.

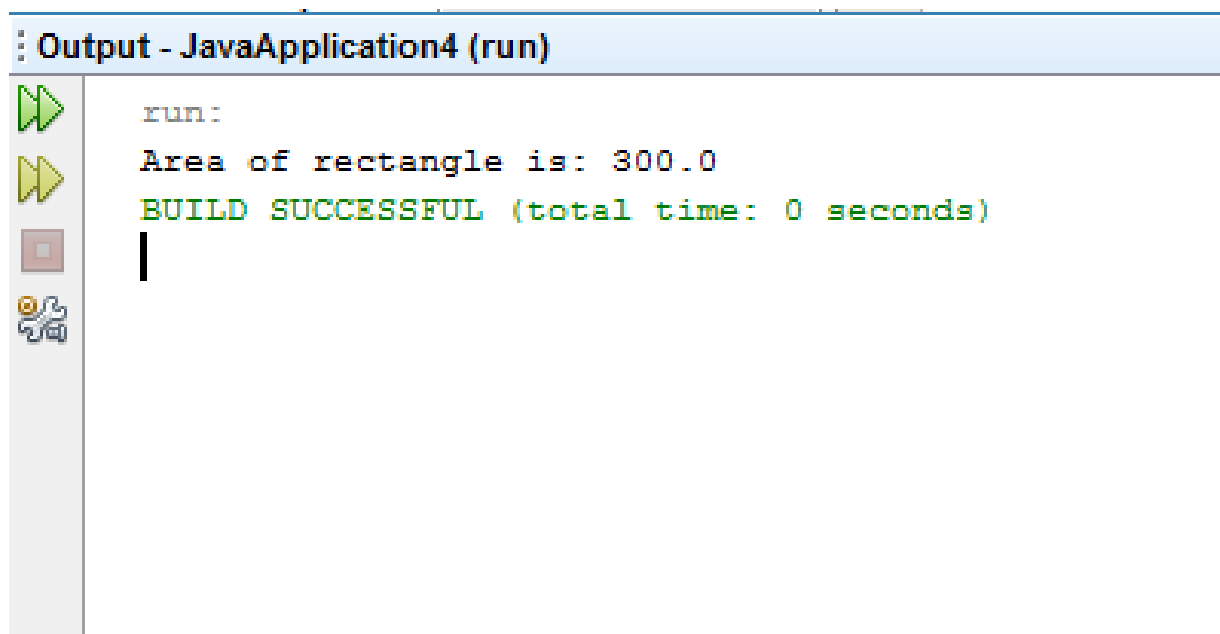
Task: To calculate and print the area of triangle using the concept of classes and user defined functions.

Coding:



```
5  //
6
7  /**
8   *
9   * @author Gaurav
10  */
11  public class NewClass {
12      static double area(double l, double b)
13      {
14          return (l*b);
15      }
16
17      public static void main (String [] args){
18          double a;
19          a=area(15,20);
20          System.out.println("Area of rectangle is: "+a);
21      }
22  }
23  }
```

Output:



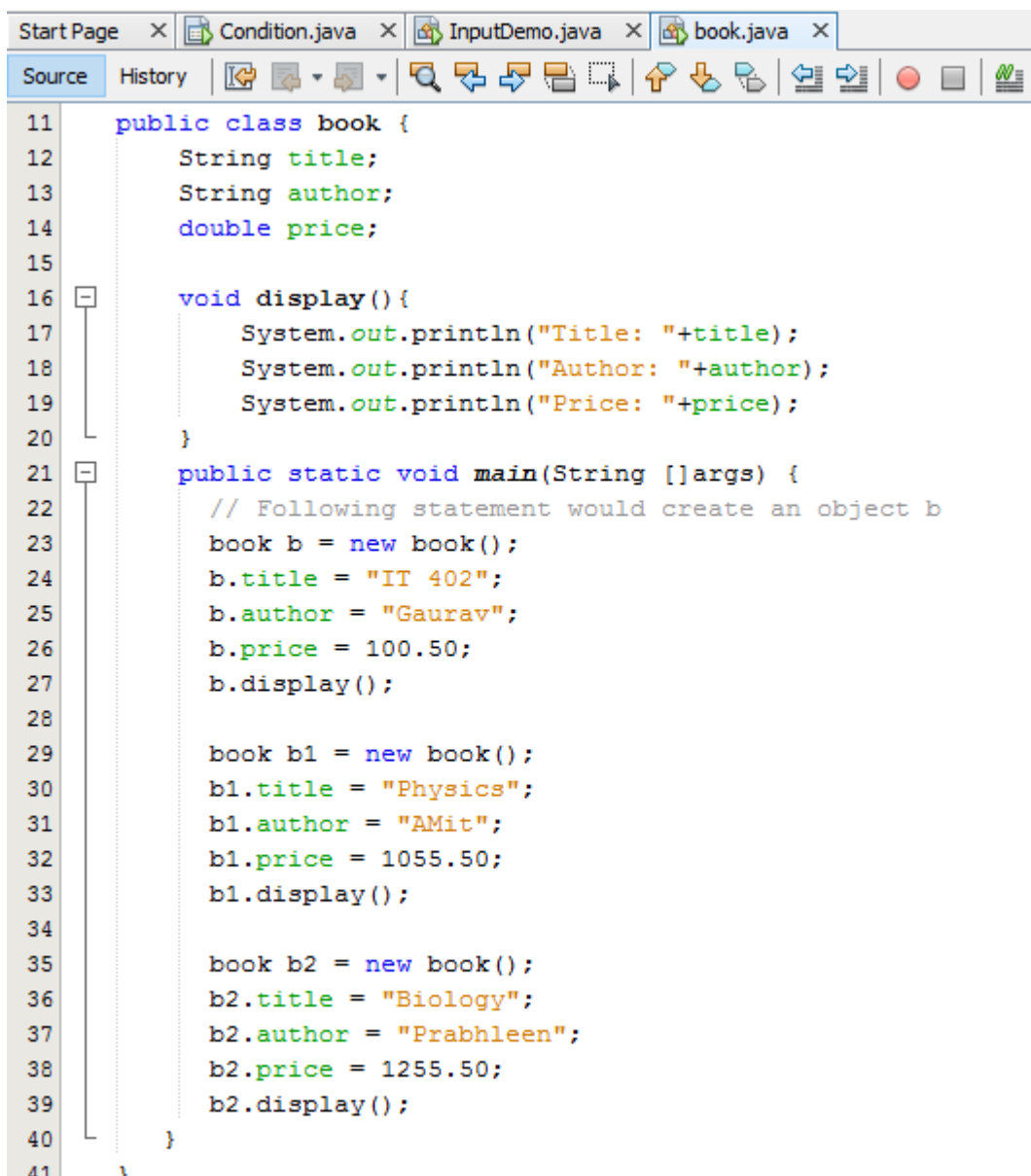
```
Output - JavaApplication4 (run)
run:
Area of rectangle is: 300.0
BUILD SUCCESSFUL (total time: 0 seconds)
```

EXPERIMENT.NO:- 17

Objective: Understanding the concept of user defined functions in classes.

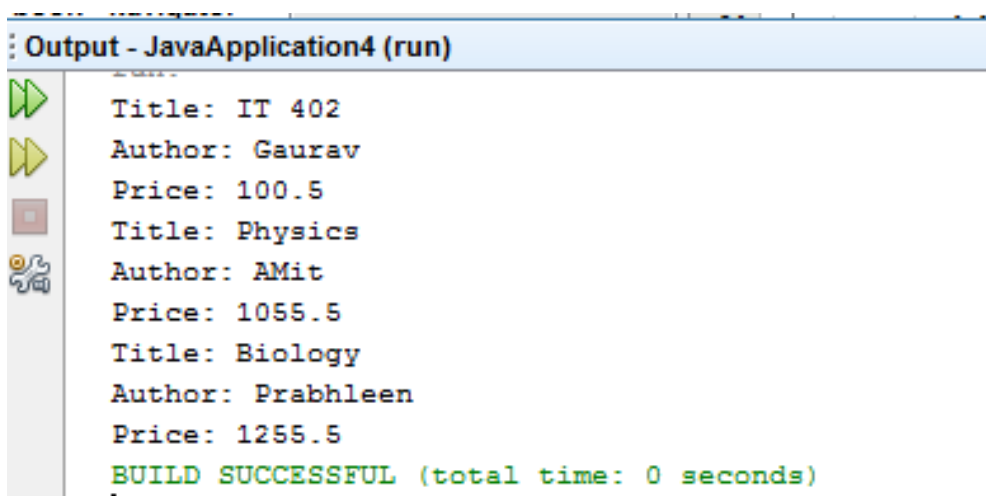
Task: To demonstrate the use of the concept of classes and user defined functions.

Coding:



```
11 public class book {  
12     String title;  
13     String author;  
14     double price;  
15  
16     void display() {  
17         System.out.println("Title: "+title);  
18         System.out.println("Author: "+author);  
19         System.out.println("Price: "+price);  
20     }  
21     public static void main(String []args) {  
22         // Following statement would create an object b  
23         book b = new book();  
24         b.title = "IT 402";  
25         b.author = "Gaurav";  
26         b.price = 100.50;  
27         b.display();  
28  
29         book b1 = new book();  
30         b1.title = "Physics";  
31         b1.author = "AMit";  
32         b1.price = 1055.50;  
33         b1.display();  
34  
35         book b2 = new book();  
36         b2.title = "Biology";  
37         b2.author = "Prabhleen";  
38         b2.price = 1255.50;  
39         b2.display();  
40     }  
41 }
```

Output:



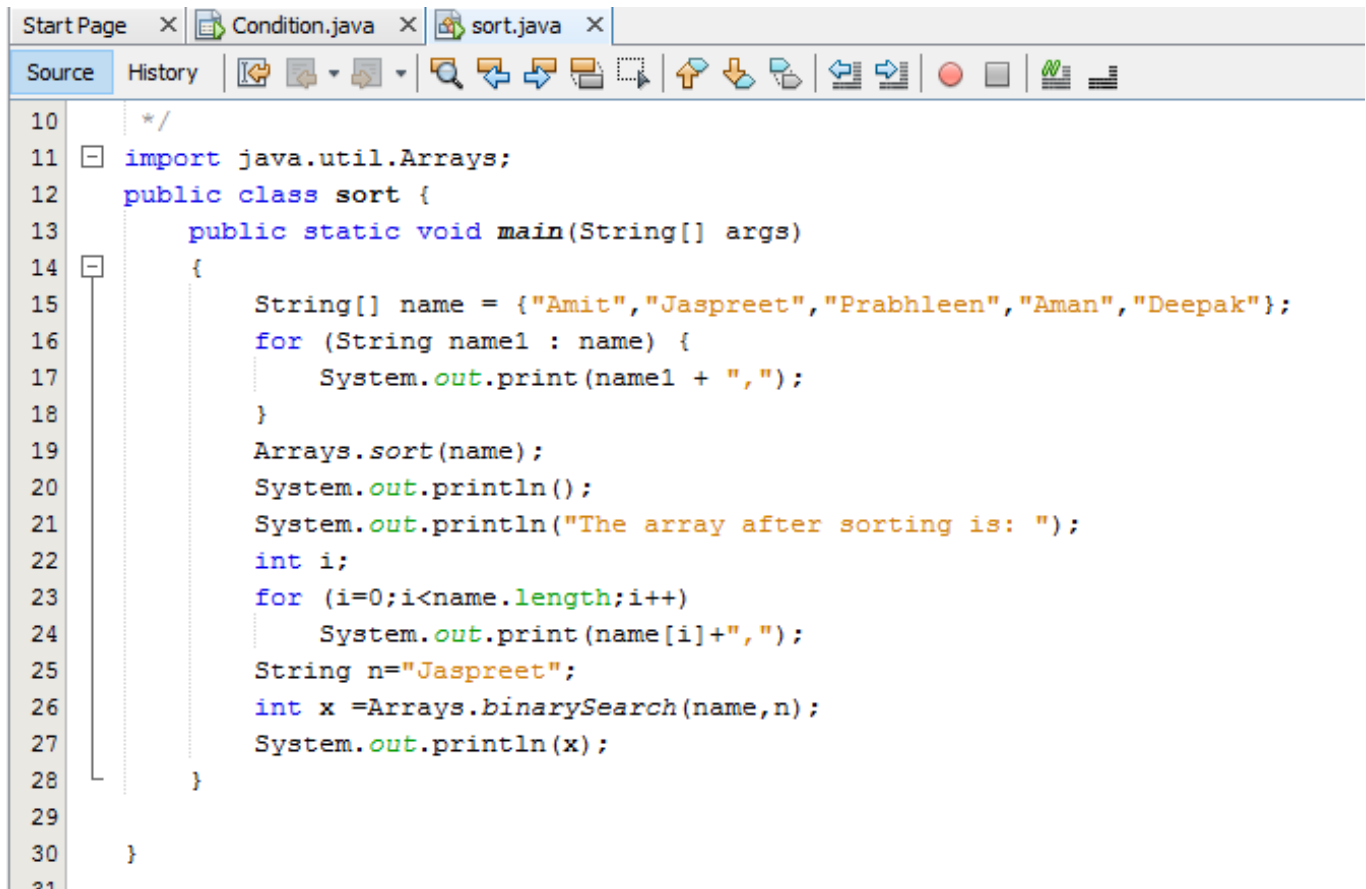
```
Output - JavaApplication4 (run)  
Title: IT 402  
Author: Gaurav  
Price: 100.5  
Title: Physics  
Author: AMit  
Price: 1055.5  
Title: Biology  
Author: Prabhleen  
Price: 1255.5  
BUILD SUCCESSFUL (total time: 0 seconds)
```

EXPERIMENT.NO:- 18

Objective: Understanding the concept of sorting the list string values.

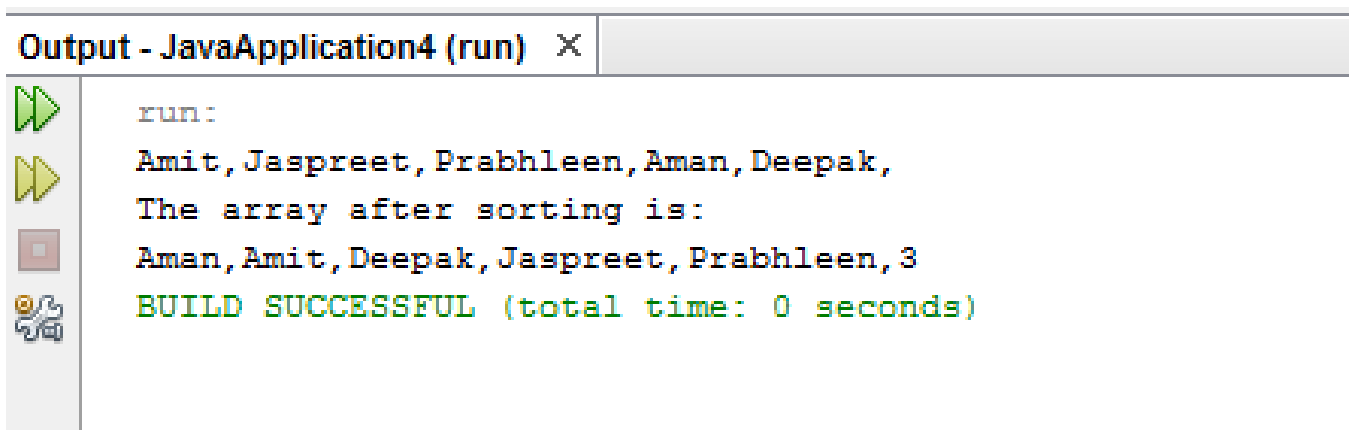
Task: To demonstrate the use of sort method in string class.

Coding:



```
10  */
11  import java.util.Arrays;
12  public class sort {
13      public static void main(String[] args)
14      {
15          String[] name = {"Amit", "Jaspreet", "Prabhleen", "Aman", "Deepak"};
16          for (String name1 : name) {
17              System.out.print(name1 + ",");
18          }
19          Arrays.sort(name);
20          System.out.println();
21          System.out.println("The array after sorting is: ");
22          int i;
23          for (i=0;i<name.length;i++)
24              System.out.print(name[i]+",");
25          String n="Jaspreet";
26          int x =Arrays.binarySearch(name,n);
27          System.out.println(x);
28      }
29  }
30  }
```

Output:



```
run:
Amit, Jaspreet, Prabhleen, Aman, Deepak,
The array after sorting is:
Aman, Amit, Deepak, Jaspreet, Prabhleen, 3
BUILD SUCCESSFUL (total time: 0 seconds)
```

Objective: Understanding the string manipulation functions.

Task: To demonstrate the use of various string manipulation functions in string class.

Coding:

```
Start Page  X Condition.java  X string.java  X
Source  History  [Icons]
9      * @author Gaurav
10     */
11     public class string {
12         public static void main(String[] args)
13         {
14             String x = "I LIKE TO eat Mangoes";
15             System.out.println("The string is : "+x);
16             System.out.println(x.charAt(2));
17             System.out.println(x.concat(" and Bananas"));
18             System.out.println(x.contains("eaten"));
19             System.out.println(x.endsWith("es"));
20             System.out.println(x.equals("I LIKE TO EAT Mangoes"));
21             System.out.println(x.equalsIgnoreCase("I LIKE TO EAT Mangoes"));
22             System.out.println(x.indexOf('L'));
23             System.out.println(x.isEmpty());
24             System.out.println(x.length());
25             System.out.println(x.replace('e','*'));
26             System.out.println(x.replace("LIKE", "ABCD"));
27             System.out.println(x.toLowerCase());
28             System.out.println(x.toUpperCase());
29         }
30     }
31 }
32
```

Output:

```
Output - JavaApplication4 (run)  X
run:
The string is : I LIKE TO eat Mangoes
L
I LIKE TO eat Mangoes and Bananas
false
true
false
true
2
false
21
I LIKE TO *at Mango*s
I ABCD TO eat Mangoes
i like to eat mangoes
I LIKE TO EAT MANGOES
BUILD SUCCESSFUL (total time: 0 seconds)
```

My SQL Commands:

C:\Program Files\MySQL\MySQL Server 5.1\bin\mysql.exe

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show database;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'database' at line 1

mysql> show databases;

Database
information_schema
mysql
raahul
test

4 rows in set (0.02 sec)

mysql> use test;

Database changed

mysql> show tables;

Tables_in_test
abcd
arshleen
kanchan
muskaan
muskan
t1
test

7 rows in set (0.00 sec)

mysql> desc t1;

Field	Type	Null	Key	Default	Extra
sno	int(11)	YES		NULL	
name	varchar(20)	YES		NULL	
marks	int(11)	YES		NULL	

3 rows in set (0.03 sec)

mysql> desc test;

Field	Type	Null	Key	Default	Extra
sno	int(11)	YES		NULL	
name	varchar(15)	YES		NULL	
marks	int(11)	YES		NULL	

3 rows in set (0.03 sec)

mysql> desc muskan;

Field	Type	Null	Key	Default	Extra
studentid	int(11)	NO	PRI	NULL	
name	varchar(17)	YES		NULL	
fname	char(28)	YES		NULL	
marks	int(11)	YES		NULL	

4 rows in set (0.02 sec)

```
mysql> select*from muskan;
```

studentid	name	fname	marks
1234	NIGITA	SODHI RAM	98
1567	QWER	EFGH	92
1719	MUSKAN	NARINDER KUMAR SHARMA	100
1924	KANCHAN	ABCD	95
4586	OPAS	MNOP	98
5126	TYUI	IJKL	99

```
6 rows in set (0.00 sec)
```

```
mysql> create database factory;
```

```
Query OK, 1 row affected (0.08 sec)
```

```
mysql> use factory;
```

```
Database changed
```

```
mysql> create table Employee(EmpID integer primary key, EmpName varchar(30)not null,Designation char (10),DOJ date, Sal integer check(sal>10000),Comm integer,DeptID integer);
```

```
Query OK, 0 rows affected (0.28 sec)
```

```
line 1
```

```
mysql> insert into Employee values(8369,'SMITH','CLERK','1990-12-18',800,200,10);
```

```
Query OK, 1 row affected (0.05 sec)
```

```
line 1
```

```
mysql> insert into Employee values(8499,'ANYA','SALESMAN','1991-02-20',1600,300,20);
```

```
Query OK, 1 row affected (0.03 sec)
```

```
mysql> insert into Employee values(8566,'MAHADEVAN','MANAGER','1991-02-04',2985,NULL,30);
```

```
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '' at line 1
```

```
mysql> insert into Employee values(8566,'MAHADEVAN','MANAGER','1991-02-04',2985,NULL,30);
```

```
Query OK, 1 row affected (0.03 sec)
```

```
mysql> insert into Employee values(8654,'MOMIN','SALESMAN','1991-09-28',1200,400,20);
```

```
Query OK, 1 row affected (0.02 sec)
```

```
mysql> insert into Employee values(8698,'BINA','MANAGER','1991-01-05',2850,250,10);
```

```
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into Employee values(8798,'SHIVANSH','CLERK','1991-06-09',2450,NULL,30);
```

```
Query OK, 1 row affected (0.03 sec)
```

```
mysql> insert into Employee values(8700,'SCOTT','ANALYST','1992-12-09',3000,150,10);
```

```
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into Employee values(8786,'AMIR','PRESIDENT','1991-11-18',5000,NULL,20);
```

```
Query OK, 1 row affected (0.06 sec)
```

```
mysql> insert into Employee values(8888,'KULDEEP','SALESMAN','1992-04-08',1500,000,30);
```

```
Query OK, 1 row affected (0.02 sec)
```

```
mysql> select*from Employee;
```

EmpID	EmpName	Designation	DOJ	Sal	Comm	DeptID
8369	SMITH	CLERK	1990-12-18	800	200	10
8499	ANYA	SALESMAN	1991-02-20	1600	300	20
8566	MAHADEVAN	MANAGER	1991-02-04	2985	NULL	30
8654	MOMIN	SALESMAN	1991-09-28	1200	400	20
8698	BINA	MANAGER	1991-01-05	2850	250	10
8700	SCOTT	ANALYST	1992-12-09	3000	150	10
8786	AMIR	PRESIDENT	1991-11-18	5000	NULL	20
8798	SHIVANSH	CLERK	1991-06-09	2450	NULL	30
8888	KULDEEP	SALESMAN	1992-04-08	1500	0	30

```
9 rows in set (0.00 sec)
```

CA\Program Files\MySQL\MySQL Server 5.1\bin\mysql.exe

```
mysql>
```

```
mysql>
```

```
mysql>
```

```
mysql> select*from employee;
```

EmpID	EmpName	Designation	DOJ	Sal	Comm	DeptID
8369	SMITH	CLERK	1990-12-18	800	200	10
8499	ANYA	SALESMAN	1991-02-20	1600	300	20
8566	MAHADEVAN	MANAGER	1991-02-04	2985	NULL	30
8654	MOMIN	SALESMAN	1991-09-28	1200	400	20
8698	BINA	MANAGER	1991-01-05	2850	250	10
8700	SCOTT	ANALYST	1992-12-09	3000	150	10
8786	AMIR	PRESIDENT	1991-11-18	5000	NULL	20
8798	SHIVANSH	CLERK	1991-06-09	2450	NULL	30
8888	KULDEEP	SALESMAN	1992-04-08	1500	0	30

```
9 rows in set (0.00 sec)
```

```
mysql> select Empname,Sal from employee where Sal>=2000;
```

Empname	Sal
MAHADEVAN	2985
BINA	2850
SCOTT	3000
AMIR	5000
SHIVANSH	2450

```
5 rows in set (0.00 sec)
```

```
mysql> select Empname,Sal from employee where Sal>=2000;
```

Empname	Sal
MAHADEVAN	2985
BINA	2850
SCOTT	3000
AMIR	5000
SHIVANSH	2450

```
5 rows in set (0.00 sec)
```

```
mysql> select Empname,Sal from Employee where Sal not between 2500 and 4000;
```

Empname	Sal
SMITH	800
ANYA	1600
MOMIN	1200
AMIR	5000
SHIVANSH	2450
KULDEEP	1500

```
6 rows in set (0.03 sec)
```

```
mysql>
```

```
mysql> select Sal+Comm as"total incentive" from Employee where Comm is not NULL;
+-----+
| total incentive |
+-----+
|          1000 |
|          1900 |
|          1600 |
|          3100 |
|          3150 |
|          1500 |
+-----+
6 rows in set (0.02 sec)
```

```
mysql> select Empname from Employee where Empmname like "__A%";
ERROR 1054 (42S22): Unknown column 'Empmname' in 'where clause'
mysql> select Empname from Employee where Empname like "%A%" order by Empname;
+-----+
| Empname |
+-----+
| AMIR    |
| ANYA    |
| BINA    |
| MAHADEVUAN |
| SHIVANSH |
+-----+
5 rows in set (0.00 sec)
```

```
mysql> select Empname from Employee where Empname like "%A%" order by Empname;
+-----+
| Empname |
+-----+
| AMIR    |
| ANYA    |
| BINA    |
| MAHADEVUAN |
| SHIVANSH |
+-----+
5 rows in set (0.00 sec)
```

```
mysql> select avg(Sal) from Employee group by deptid having count(*)>5;
Empty set (0.06 sec)
```

```
mysql> select distinct designation from Employee ;
+-----+
| designation |
+-----+
| CLERK       |
| SALESMAN    |
| MANAGER     |
| ANALYST     |
| PRESIDENT   |
+-----+
5 rows in set (0.00 sec)
```

```
C:\Program Files\MySQL\MySQL Server 5.1\bin\mysql.exe
mysql> select count(*) from Employee group by deptID;
+-----+
| count(*) |
+-----+
|          3 |
|          3 |
|          3 |
+-----+
3 rows in set (0.00 sec)
```

C:\Program Files\MySQL\MySQL Server 5.1\bin\mysql.exe

1 row in set (0.00 sec)

mysql> select Empname from Employee where DOJ>="01/1991/01";

Empname
SMITH
ANYA
MAHADEVAN
MOMIN
BINA
SCOTT
AMIR
SHIVANSH
KULDEEP

9 rows in set, 1 warning (0.00 sec)

```
mysql> select * from Employee order by DOJ;
```

EmpID	EmpName	Designation	DOJ	Sal	Comm	DeptID
8369	SMITH	CLERK	1990-12-18	800	200	10
8698	BINA	MANAGER	1991-01-05	2850	250	10
8566	MAHADEVAN	MANAGER	1991-02-04	2985	NULL	30
8499	ANYA	SALESMAN	1991-02-20	1600	300	20
8798	SHIVANSH	CLERK	1991-06-09	2450	NULL	30
8654	MOMIN	SALESMAN	1991-09-28	1200	400	20
8786	AMIR	PRESIDENT	1991-11-18	5000	NULL	20
8888	KULDEEP	SALESMAN	1992-04-08	1500	0	30
8700	SCOTT	ANALYST	1992-12-09	3000	150	10

```
9 rows in set (0.00 sec)

mysql> select max(Sal) from Employee ;
```

max(Sal)
5000

```
1 row in set (0.00 sec)

mysql> _
```

C:\Program Files\MySQL\MySQL Server 5.1\bin\mysql.exe

```
mysql> select min(Sal),max(Sal),avg(Sal) from Employee where 'Designation'='MANA
GER'; ;
```

min(Sal)	max(Sal)	avg(Sal)
NULL	NULL	NULL

```
1 row in set (0.00 sec)

ERROR:
No query specified

mysql> update Employee Set Sal=Sal+0.15*Sal where 'Designation'='MANAGER';
Query OK, 0 rows affected (0.00 sec)

mysql> select*from Employee;
```

EmpID	EmpName	Designation	DOJ	Sal	Comm	DeptID
8369	MrSMITH	CLERK	1990-12-18	800	200	10
8499	MrANYA	SALESMAN	1991-02-20	1600	300	20
8566	MrMAHADEVAN	MANAGER	1991-02-04	2985	NULL	30
8654	MrMOMIN	SALESMAN	1991-09-28	1200	400	20
8698	MrBINA	MANAGER	1991-01-05	2850	250	10
8700	MrSCOTT	ANALYST	1992-12-09	3000	150	10
8786	MrAMIR	PRESIDENT	1991-11-18	5000	NULL	20
8798	MrSHIVANSH	CLERK	1991-06-09	2450	NULL	30
8888	MrKULDEEP	SALESMAN	1992-04-08	1500	0	30

```
9 rows in set (0.12 sec)
```

```
mysql> update Employee Set Sal=Sal+0.15*Sal where 'Designation'='MANAGER';
Query OK, 0 rows affected (0.00 sec)

mysql> select*from Employee where year(DOJ)=1991;
```

EmpID	EmpName	Designation	DOJ	Sal	Comm	DeptID
8499	MrANYA	SALESMAN	1991-02-20	1600	300	20
8566	MrMAHADEVAN	MANAGER	1991-02-04	2985	NULL	30
8654	MrMOMIN	SALESMAN	1991-09-28	1200	400	20
8698	MrBINA	MANAGER	1991-01-05	2850	250	10
8786	MrAMIR	PRESIDENT	1991-11-18	5000	NULL	20
8798	MrSHIVANSH	CLERK	1991-06-09	2450	NULL	30

```
6 rows in set (0.03 sec)

mysql>
```