Experiment No.1

1. Write a Java program to create a vector that stores names of 10 employees, later add 2 new employees, then remove eighth employee from vector, copy the vector to another vector, display the values and size of new vector.

Code:

```
import java.util.*;

public class EmployeeVectorExample {

public static void main(String[] args) {

Vector<String> employeeVector = new Vector<>();

for (int i = 1; i <= 10; i++) {

employeeVector.add("Employee " + i);

}

System.out.println("Original Vector:");

displayVector(employeeVector);

employeeVector.add("New Employee 1");

employeeVector.add("New Employee 2");

System.out.println("\nVector after adding 2 new employees:");

displayVector(employeeVector);

int indexToRemove = 7;

employeeVector.remove(indexToRemove);

System.out.println("\nVector after removing eighth employee:");

displayVector(employeeVector);

Vector<String> copiedVector = new Vector<>(employeeVector);

System.out.println("\nCopied Vector:");

displayVector(copiedVector);
```

```
System.out.println("Size of Copied Vector: " + copiedVector.size());

}

private static void displayVector(Vector<String> vector) {

for (String employee : vector) {

System.out.print(employee+" ");

}

}

}
```

2. In this problem we have given you three classes in the editor:

· Student class

· Rockstar class

· Hacker class

In the main method, we populated an ArrayList with several instances of these classes. count method calculates how many instances of each type is present in the ArrayList. (Use instanceof)

Sample Input

Student

Student

Rockstar

Student

Hacker

Sample Output

3 1

Code:

```
import java.util.*;
class hacker
{
int a;
}
class regular
{
int b;
}
class students
{
int c;
}
public class q2{
public static void main(String[] args) {
ArrayList<Object> list=new ArrayList<Object>();
hacker h=new hacker();
hacker h1=new hacker();
regular r1=new regular();
students s1=new students();
students s2=new students();
students s3=new students();
list.add(h);
list.add(h1);
```

```
list.add(r1);
list.add(s1);
list.add(s2);
list.add(s3);
Iterator<Object> i=list.iterator();
int count=0;
while(i.hasNext())
{
Object o=i.next();
if(o instanceof hacker){
count++;
}
else if(o instanceof students)
count++;
else if(o instanceof regular)
count++;
else
continue;
}
System.out.println("Number of instances are: "+count);
}
}
```

3. You are given n pairs of strings. Two pairs (a,b) and (c,d) are identical if a=c and b=d. That also implies (a,b) is not same as (b,a). After taking each pair as input, you need to print a number of unique pairs you currently have. Print n lines. In the ith line, print number of unique pairs you have after taking ith pair as input.

Sample Input

5

john tom

john mary

john tom

mary anna

mary anna

Sample Output

1

2

2

3

3

Code:

```
import java.util.HashSet;

import java.util.*;

public class q3 {

public static void main(String[] args)

{

HashSet<String> s=new HashSet<String>();

Scanner sc=new Scanner(System.in);
```

```
for(int i=0;i<5;i++)

{

s.add(sc.nextLine());

System.out.println(s.size());

}

}

}
```

4. WAP to convert an infix expression to postfix and evaluate the same. [input in the form of 5*7+8-3]

Code:

```
import java.util.Stack;

public class q4 {

public static void main(String[] args) {

String infixExpression = "5*7+8-3";

String postfixExpression = infixToPostfix(infixExpression);

System.out.println("Postfix Expression: " + postfixExpression);

int result = evaluatePostfix(postfixExpression);

System.out.println("Result: " + result);

}

private static String infixToPostfix(String infixExpression) {

StringBuilder postfix = new StringBuilder();

Stack<Character> stack = new Stack<>();

for (char c : infixExpression.toCharArray()) {

if (Character.isDigit(c)) {
```

```
postfix.append(c);
} else if (c == '+' || c == '-' || c == '*' || c == '/') {
while (!stack.isEmpty() && precedence(c) <= precedence(stack.peek())) {
postfix.append(stack.pop());
}
stack.push(c);
}
}
while (!stack.isEmpty()) {
postfix.append(stack.pop());
}
return postfix.toString();
}
private static int evaluatePostfix(String postfixExpression) {
Stack<Integer> stack = new Stack<>();
for (char c : postfixExpression.toCharArray()) {
if (Character.isDigit(c)) {
stack.push(Character.getNumericValue(c));
} else {
int operand2 = stack.pop();
int operand1 = stack.pop();
int result = performOperation(operand1, operand2, c);
stack.push(result);
}
```

```
}
return stack.pop();
}
private static int precedence(char operator) {
switch (operator) {
case '+':
case '-':
return 1;
case '*':
case '/':
return 2;
default:
return -1;
}
}
private static int performOperation(int operand1, int operand2, char operator) {
switch (operator) {
case '+':
return operand1 + operand2;
case '-':
return operand1 - operand2;
case '*':
return operand1 * operand2;
case '/':
```

```
return operand1 / operand2;

default:

throw new IllegalArgumentException("Invalid operator: " + operator);

}

}

}
```

5. Write a java program that maintains a separate linked list denoting marks of students from two divisions. Perform the following operations on Linked List:

a. Merge both the list

b. Sort

c. Minimum and maximum

d. Split failed and passed

e. Count number of students getting above 90 marks

Code:

```
import java.util.LinkedList;

class Student {

int marks;

public Student(int marks) {

this.marks = marks;

}

}

public class q5i {

public static void main(String[] args) {
```

```
LinkedList<Student> division1 = new LinkedList<>();
LinkedList<Student> division2 = new LinkedList<>();
division1.add(new Student(80));
division1.add(new Student(95));
division1.add(new Student(70));
division1.add(new Student(85));
division2.add(new Student(75));
division2.add(new Student(90));
division2.add(new Student(60));
division2.add(new Student(92));
LinkedList<Student> mergedList = mergeLists(division1, division2);
System.out.println("Merged List:");
displayList(mergedList);
mergedList.sort((s1, s2) -> Integer.compare(s1.marks, s2.marks));
System.out.println("\nSorted Merged List:");
displayList(mergedList);
Student minStudent = findMinimum(mergedList);
Student maxStudent = findMaximum(mergedList);
System.out.println("\nMinimum Marks: " + minStudent.marks);
System.out.println("Maximum Marks: " + maxStudent.marks);
LinkedList<Student> passedList = splitPassed(mergedList);
LinkedList<Student> failedList = splitFailed(mergedList);
System.out.println("\nPassed Students:");
displayList(passedList);
```

```
System.out.println("Failed Students:");

displayList(failedList);

int above90Count = countAbove90(mergedList);

System.out.println("\nNumber of Students with Marks Above 90: " +
above90Count);

}

private static LinkedList<Student> mergeLists(LinkedList<Student> list1,
LinkedList<Student> list2) {

LinkedList<Student> mergedList = new LinkedList<>();

mergedList.addAll(list1);

mergedList.addAll(list2);

return mergedList;

}

private static void displayList(LinkedList<Student> list) {

for (Student student : list) {

System.out.print(student.marks + " ");

}

System.out.println();

}

private static Student findMinimum(LinkedList<Student> list) {

return list.stream().min((s1, s2) -> Integer.compare(s1.marks,
s2.marks)).orElse(null);

}

private static Student findMaximum(LinkedList<Student> list) {

return list.stream().max((s1, s2) -> Integer.compare(s1.marks,
s2.marks)).orElse(null);
```

```
}

private static LinkedList<Student> splitPassed(LinkedList<Student> list) {

return new LinkedList<>(list.subList(0, list.size() / 2));

}

private static LinkedList<Student> splitFailed(LinkedList<Student> list) {

return new LinkedList<>(list.subList(list.size() / 2, list.size()));

}

private static int countAbove90(LinkedList<Student> list) {

return (int) list.stream().filter(student -> student.marks > 90).count();

}

}
```

There are a number of students in a school who wait to be served. Two types of events, ENTER and SERVED, can take place which are described below.

ENTER: A student with some priority enters the queue to be served.

SERVED: The student with the highest priority is served (removed) from the queue.

A unique id is assigned to each student entering the queue. The queue serves the students based on the following criteria (priority criteria):

The student having the highest Cumulative Grade Point Average (CGPA) is served first.

Any students having the same CGPA will be served by name in ascending case-sensitive alphabetical order.

Any students having the same CGPA and name will be served in ascending order of the id.

Create the following two classes:

The Student class should implement:

The constructor Student(int id, String name, double cgpa).

The method int getID() to return the id of the student.

The method String getName() to return the name of the student.

The method double getCGPA() to return the CGPA of the student.

The Priorities class should implement the method List<Student> getStudents(List<String> events) to process all the given events and return all the students yet to be served in the priority order.

Code:

```
import java.util.*;

class Student implements Comparable<Student> {

private int id;

private double cgpa;

public Student(int id, String name, double cgpa) {

this.id = id;

this.name = name;

this.cgpa = cgpa;

}

public int getID() {

return id;

}

public String getName() {

return name;

}

public double getCGPA() {
```

```
return cgpa;
}
public int compareTo(Student other) {
if (this.cgpa != other.cgpa) {
return Double.compare(other.cgpa, this.cgpa);
} else if (!this.name.equals(other.name)) {
return this.name.compareTo(other.name);
} else {
return Integer.compare(this.id, other.id);
}
}
}
public class q6 {
public List<Student> getStudents(List<String> events) {
PriorityQueue<Student> priorityQueue = new PriorityQueue<>();
for (String event : events) {
String[] eventData = event.split(" ");
if (eventData[0].equals("ENTER")) {
int id = Integer.parseInt(eventData[3]);
String name = eventData[1];
double cgpa = Double.parseDouble(eventData[2]);
priorityQueue.add(new Student(id, name, cgpa));
} else if (eventData[0].equals("SERVED")) {
priorityQueue.poll();
```

```
}
}
List<Student> remainingStudents = new ArrayList<>(priorityQueue);
remainingStudents.sort(Student::compareTo);
return remainingStudents;
}
public static void main(String[] args) {
q6 priorities = new q6();
List<String> events = Arrays.asList(
"ENTER Matthew 3.75 50",
"ENTER Foggy 3.8 24",
"ENTER Frank 3.7 35",
"SERVED",
"SERVED",
"ENTER Karen 3.85 36",
"SERVED",
"ENTER Fisk 3.9 42",
"ENTER Wesley 3.6 46",
"ENTER Poindexter 3.95 49",
"ENTER Elektra 3.95 50",
"SERVED"
);
List<Student> remainingStudents = priorities.getStudents(events);
System.out.println("Remaining Students:");
```

```
for (Student student : remainingStudents) {

System.out.println(student.getName());

}

}

}
```

Experiment No. 2

1.Write a Java program that creates 2 lists, 1 for integers and other for strings. Define a generic method to display the elements of both lists using arrays with the use of a for-each loop.

```
import java.util.*; public class exp2i {

public < E > void printArray (E[] inputArray)

{

for (E element :inputArray)

{

System.out.print(element+" ");

}

System.out.println();

}

public static void main(String args[]) { Integer [] intArray ={1,2,3,4,5};

Double [] doubleArray = {1.1, 1.2, 1.3,1.4}; Character[] charArray =
{'H','e','l','l','o'}; exp2i obj= new exp2i(); System.out.println("Integer array
contains: "); obj.printArray (intArray);

System.out.println("double array contains: "); obj.printArray (doubleArray);

System.out.println("Character array contains: "); obj.printArray (charArray);

}
```

```
}
```

2.Write a simple generic version of the method isEqualTo that compares its two arguments with the equals method and returns true if they're equal and false otherwise. Use this generic method in a program that calls isEqualTo with a variety of built-in types, such as Object or Integer. What result do you get when you attempt to run this program?

```
import java.util.*; public class exp2ii {

public < E > void isEqualTo(E arg1, E arg2)

{

if(arg1 ==arg2)

System.out.println("They are Equal!"); else

System.out.println("Unequal");

}

public static void main(String args[]) { int a= 50;

int b = 100;

int c = 50;

String d="Rachit";

String e= "Hello";

exp2ii obj = new exp2ii(); obj.isEqualTo(a, b); obj.isEqualTo(a, c);
obj.isEqualTo(d, e); obj.isEqualTo(a, e);

}

}
```

3. Write a generic method Sort based on the sort program. Write a test program that inputs, sorts, and outputs an Integer array and a Float array. [Hint: Use > in the

type-parameter section for method Sort, so you can use method compareTo to compare the objects of the type that T represents.]

```
import java.util.*; class genericMethod {

public < T extends Comparable<T> > void sort(T[] arg1) {

System.out.println("Array before sort:" + Arrays.toString(arg1)); for(int i=0; i < arg1.length -1; i++) {

for(int j = i + 1; j < arg1.length; j++) { if(arg1[i].compareTo(arg1[j]) > 0) {

T temp= arg1[i]; arg1[i] = arg1[j]; arg1[j] =temp;

}

}

}

System.out.println("Array after sort: "+Arrays.toString(arg1));

}

}

class exp2iii {

public static void main(String[] args) { Integer[] intArray ={2, 5, 6, 1, 9};

Float [] floatArray = {2.5f, 1.2f, 5.5f, 20.0f}; genericMethod obj = new genericMethod(); obj.sort(intArray);

obj.sort(floatArray);

}

}
```

Experiment No. 3

```
public class Calculator extends javax.swing.JFrame {
double num1,num2,ans;
int opt;
/**
* Creates new form Calculator
*/
public Calculator() {
initComponents();
}
/**
* This method is called from within the constructor to initialize the form.
* WARNING: Do NOT modify this code. The content of this method is always
* regenerated by the Form Editor.
*/
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {
jButton4 = new javax.swing.JButton();
jButton5 = new javax.swing.JButton();
jButton7 = new javax.swing.JButton();
jScrollPane1 = new javax.swing.JScrollPane();
display = new javax.swing.JTextPane();
jButton1 = new javax.swing.JButton();
```

```
jButton2 = new javax.swing.JButton();
jButton3 = new javax.swing.JButton();
jButton6 = new javax.swing.JButton();
jButton8 = new javax.swing.JButton();
jButton66 = new javax.swing.JButton();
jButton10 = new javax.swing.JButton();
jButton11 = new javax.swing.JButton();
jButton12 = new javax.swing.JButton();
jButton13 = new javax.swing.JButton();
jButton14 = new javax.swing.JButton();
jButton15 = new javax.swing.JButton();
jButton16 = new javax.swing.JButton();
jButton17 = new javax.swing.JButton();
jButton18 = new javax.swing.JButton();
jButton19 = new javax.swing.JButton();
jButton20 = new javax.swing.JButton();
jButton22 = new javax.swing.JButton();
jButton4.setText("1");
jButton5.setText("1");
jButton7.setText("1");
setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
jScrollPane1.setViewportView(display);
jButton1.setText("1");
jButton1.addActionListener(new java.awt.event.ActionListener() {
```

```
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton1ActionPerformed(evt);
}
});
jButton2.setText("2");
jButton2.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton2ActionPerformed(evt);
}
});
jButton3.setText("3");
jButton3.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton3ActionPerformed(evt);
}
});
jButton6.setText("4");
jButton6.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton6ActionPerformed(evt);
}
});
jButton8.setText("5");
jButton8.addActionListener(new java.awt.event.ActionListener() {
```

```
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton8ActionPerformed(evt);
}
});
jButton66.setText("6");
jButton66.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton66ActionPerformed(evt);
}
});
jButton10.setText("7");
jButton10.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton10ActionPerformed(evt);
}
});
jButton11.setText("8");
jButton11.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton11ActionPerformed(evt);
}
});
jButton12.setText("9");
jButton12.addActionListener(new java.awt.event.ActionListener() {
```

```
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton12ActionPerformed(evt);
}
});
jButton13.setText("0");
jButton13.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton13ActionPerformed(evt);
}
});
jButton14.setText("C");
jButton14.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton14ActionPerformed(evt);
}
});
jButton15.setText(".");
jButton15.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton15ActionPerformed(evt);
}
});
jButton16.setText("-");
jButton16.addActionListener(new java.awt.event.ActionListener() {
```

```
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton16ActionPerformed(evt);
}
});
jButton17.setText("*");
jButton17.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton17ActionPerformed(evt);
}
});
jButton18.setText("+");
jButton18.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton18ActionPerformed(evt);
}
});
jButton19.setText("/");
jButton19.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton19ActionPerformed(evt);
}
});
jButton20.setText("%");
jButton20.addActionListener(new java.awt.event.ActionListener() {
```

```
public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton20ActionPerformed(evt);

}

});

jButton22.setText("=");

jButton22.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton22ActionPerformed(evt);

}

});

javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addContainerGap(46, Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAI
LING, false)

.addComponent(jScrollPane1)

.addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)

.addGroup(layout.createSequentialGroup()
```

.addComponent(jButton6, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jButton8, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jButton66, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE))

.addGroup(layout.createSequentialGroup()

.addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jButton2, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jButton3, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE))

.addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)

.addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jButton15, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addComponent(jButton13, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jButton14, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE))

.addGroup(layout.createSequentialGroup()

.addComponent(jButton11, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jButton12, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE)))))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jButton16, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jButton18, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jButton19, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jButton17, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jButton20, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jButton22, javax.swing.GroupLayout.PREFERRED_SIZE, 56, javax.swing.GroupLayout.PREFERRED_SIZE))))

```
.addGap(50, 50, 50))

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addContainerGap(31, Short.MAX_VALUE)

.addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 55,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)

.addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)

.addComponent(jButton1, javax.swing.GroupLayout.PREFERRED_SIZE, 36,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jButton2, javax.swing.GroupLayout.PREFERRED_SIZE, 36,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jButton3, javax.swing.GroupLayout.PREFERRED_SIZE, 36,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)

.addComponent(jButton6, javax.swing.GroupLayout.PREFERRED_SIZE, 36,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jButton8, javax.swing.GroupLayout.PREFERRED_SIZE, 36,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

.addComponent(jButton66, javax.swing.GroupLayout.PREFERRED_SIZE, 36, javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jButton10, javax.swing.GroupLayout.PREFERRED_SIZE, 36, javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jButton11, javax.swing.GroupLayout.PREFERRED_SIZE, 36, javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jButton12, javax.swing.GroupLayout.PREFERRED_SIZE, 36, javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jButton13, javax.swing.GroupLayout.PREFERRED_SIZE, 36, javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jButton14, javax.swing.GroupLayout.PREFERRED_SIZE, 36, javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jButton15, javax.swing.GroupLayout.PREFERRED_SIZE, 36, javax.swing.GroupLayout.PREFERRED_SIZE)))

.addGroup(layout.createSequentialGroup()

.addComponent(jButton18, javax.swing.GroupLayout.PREFERRED_SIZE, 36, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jButton16, javax.swing.GroupLayout.PREFERRED_SIZE, 36, javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jButton17, javax.swing.GroupLayout.PREFERRED_SIZE, 36, javax.swing.GroupLayout.PREFERRED_SIZE)

```
.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jButton19, javax.swing.GroupLayout.PREFERRED_SIZE, 36,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addGroup(layout.createSequentialGroup()

.addComponent(jButton22, javax.swing.GroupLayout.PREFERRED_SIZE, 36,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jButton20, javax.swing.GroupLayout.PREFERRED_SIZE, 36,
javax.swing.GroupLayout.PREFERRED_SIZE)))

.addGap(34, 34, 34))

);

pack();

}// </editor-fold>

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

String s;

s=display.getText();

s=s.concat("2");

display.setText(s);

}

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

String s;

s=display.getText();

s=s.concat("1");
```

```
display.setText(s);
}
private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
String s;
s=display.getText();
s=s.concat("3");
display.setText(s);
}
private void jButton6ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
String s;
s=display.getText();
s=s.concat("4");
display.setText(s);
}
private void jButton8ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
String s;
s=display.getText();
s=s.concat("5");
display.setText(s);
}
private void jButton66ActionPerformed(java.awt.event.ActionEvent evt) {
```

```
// TODO add your handling code here:
String s;
s=display.getText();
s=s.concat("6");
display.setText(s);
}
private void jButton10ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
String s;
s=display.getText();
s=s.concat("7");
display.setText(s);
}
private void jButton11ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
String s;
s=display.getText();
s=s.concat("8");
display.setText(s);
}
private void jButton12ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
String s;
s=display.getText();
```

```
s=s.concat("9");
display.setText(s);
}
private void jButton13ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
String s;
s=display.getText();
s=s.concat("0");
display.setText(s);
}
private void jButton15ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
String s;
s=display.getText();
s=s.concat(".");
display.setText(s);
}
private void jButton14ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
display.setText("");
}
private void jButton18ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
num1=Double.parseDouble(display.getText());
```

```
opt=1;
display.setText("");
}
private void jButton16ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
num1=Double.parseDouble(display.getText());
opt=2;
display.setText("");
}
private void jButton17ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
num1=Double.parseDouble(display.getText());
opt=3;
display.setText("");
}
private void jButton19ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
num1=Double.parseDouble(display.getText());
opt=4;
display.setText("");
}
private void jButton22ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
num2=Double.parseDouble(display.getText());
```

```
switch(opt)
{
case 1:
ans=num1+num2;
display.setText(""+ans);
break;
case 2:
ans=num1-num2;
display.setText(""+ans);
break;
case 3:
ans=num1*num2;
display.setText(""+ans);
break;
case 4:
display.setText(""+ans);
break;
case 5:
ans=num1%num2;
display.setText(""+ans);
break;
}
}
private void jButton20ActionPerformed(java.awt.event.ActionEvent evt) {
```

```
// TODO add your handling code here:

num1=Double.parseDouble(display.getText());

opt=5;

display.setText("");

}

/**

* @param args the command line arguments

*/

public static void main(String args[]) {

/* Set the Nimbus look and feel */

//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">

/* If Nimbus (introduced in Java SE 6) is not available, stay with the default look
and feel.

* For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

*/

try {

for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}

}

} catch (ClassNotFoundException ex) {
```

```
java.util.logging.Logger.getLogger(Calculator.class.getName()).log(java.util.loggi
ng.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(Calculator.class.getName()).log(java.util.loggi
ng.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(Calculator.class.getName()).log(java.util.loggi
ng.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(Calculator.class.getName()).log(java.util.loggi
ng.Level.SEVERE, null, ex);

}

//</editor-fold>

/* Create and display the form */

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new Calculator().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JTextPane display;

private javax.swing.JButton jButton1;

private javax.swing.JButton jButton10;

private javax.swing.JButton jButton11;

private javax.swing.JButton jButton12;
```

```
private javax.swing.JButton jButton13;
private javax.swing.JButton jButton14;
private javax.swing.JButton jButton15;
private javax.swing.JButton jButton16;
private javax.swing.JButton jButton17;
private javax.swing.JButton jButton18;
private javax.swing.JButton jButton19;
private javax.swing.JButton jButton2;
private javax.swing.JButton jButton20;
private javax.swing.JButton jButton22;
private javax.swing.JButton jButton3;
private javax.swing.JButton jButton4;
private javax.swing.JButton jButton5;
private javax.swing.JButton jButton6;
private javax.swing.JButton jButton66;
private javax.swing.JButton jButton7;
private javax.swing.JButton jButton8;
private javax.swing.JScrollPane jScrollPane1;
// End of variables declaration
}
```

Experiment No. 4

```
/*
* To change this license header, choose License Headers in Project Properties.
```

```
* To change this template file, choose Tools | Templates
* and open the template in the editor.
*/
package resume;
/**
*
* @author DJSCE.Student
*/
public class PersonalInfo extends javax.swing.JFrame {
/**
* Creates new form PersonalInfo
*/
public PersonalInfo() {
initComponents();
}
/**
* This method is called from within the constructor to initialize the form.
* WARNING: Do NOT modify this code. The content of this method is always
* regenerated by the Form Editor.
*/
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {
buttonGroup1 = new javax.swing.ButtonGroup();
```

```
buttonGroup2 = new javax.swing.ButtonGroup();
buttonGroup3 = new javax.swing.ButtonGroup();
jLabel1 = new javax.swing.JLabel();
jButton1 = new javax.swing.JButton();
jLabel2 = new javax.swing.JLabel();
jLabel3 = new javax.swing.JLabel();
jTextField1 = new javax.swing.JTextField();
jTextField2 = new javax.swing.JTextField();
jLabel4 = new javax.swing.JLabel();
jRadioButton1 = new javax.swing.JRadioButton();
jRadioButton2 = new javax.swing.JRadioButton();
setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
jLabel1.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel1.setText("PERSONAL INFO");
jButton1.setText("NEXT");
jButton1.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton1ActionPerformed(evt);
}
});
jLabel2.setText("LAST NAME");
jLabel3.setText("FIRST NAME");
jTextField1.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
jTextField1ActionPerformed(evt);

}

});

jTextField2.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jTextField2ActionPerformed(evt);

}

});

jLabel4.setText("GENDER");

jRadioButton1.setText("Male");

jRadioButton1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jRadioButton1ActionPerformed(evt);

}

});

jRadioButton2.setText("Female");

jRadioButton2.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jRadioButton2ActionPerformed(evt);

}

});

javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);
```

```
layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

.addComponent(jButton1))

.addGroup(layout.createSequentialGroup()

.addGap(156, 156, 156)

.addComponent(jLabel1)

.addGap(0, 0, Short.MAX_VALUE)))

.addContainerGap())

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAI
LING)

.addGroup(layout.createSequentialGroup()

.addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

.addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED_SIZE, 111,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addGroup(javax.swing.GroupLayout.Alignment.LEADING,
layout.createSequentialGroup()

.addGap(66, 66, 66)
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)

.addGroup(layout.createSequentialGroup()

.addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 52,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jRadioButton1)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addComponent(jRadioButton2)

.addGap(0, 0, Short.MAX_VALUE))

.addGroup(layout.createSequentialGroup()

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 55,
Short.MAX_VALUE)

.addComponent(jTextField2, javax.swing.GroupLayout.PREFERRED_SIZE, 111,
javax.swing.GroupLayout.PREFERRED_SIZE)))))

.addGap(125, 125, 125))

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)

.addGroup(layout.createSequentialGroup()

.addGap(67, 67, 67)

.addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 100,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addContainerGap(290, Short.MAX_VALUE)))

);

layout.setVerticalGroup(
```

```
layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addContainerGap()

.addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGap(37, 37, 37)

.addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jTextField2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)

.addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jRadioButton1)

.addComponent(jRadioButton2))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
108, Short.MAX_VALUE)

.addComponent(jButton1)

.addContainerGap())
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)

.addGroup(layout.createSequentialGroup()

.addGap(80, 80, 80)

.addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 28,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addContainerGap(202, Short.MAX_VALUE)))

);

pack();

}// </editor-fold>

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

Qualification q=new Qualification();

setVisible(false);

q.setVisible(true);

}

private void jTextField1ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

}

private void jTextField2ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

}

private void jRadioButton1ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

}
```

```
private void jRadioButton2ActionPerformed(java.awt.event.ActionEvent evt) {

}

/**

* @param args the command line arguments

*/

public static void main(String args[]) {

/* Set the Nimbus look and feel */

//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">

/* If Nimbus (introduced in Java SE 6) is not available, stay with the default look
and feel.

* For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

*/

try {

for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}

}

} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(PersonalInfo.class.getName()).log(java.util.log
ging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {
```

```
java.util.logging.Logger.getLogger(PersonalInfo.class.getName()).log(java.util.log
ging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(PersonalInfo.class.getName()).log(java.util.log
ging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(PersonalInfo.class.getName()).log(java.util.log
ging.Level.SEVERE, null, ex);

}

//</editor-fold>

/* Create and display the form */

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new PersonalInfo().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.ButtonGroup buttonGroup1;

private javax.swing.ButtonGroup buttonGroup2;

private javax.swing.ButtonGroup buttonGroup3;

private javax.swing.JButton jButton1;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;
```

```
private javax.swing.JLabel jLabel4;
private javax.swing.JRadioButton jRadioButton1;
private javax.swing.JRadioButton jRadioButton2;
private javax.swing.JTextField jTextField1;
private javax.swing.JTextField jTextField2;
// End of variables declaration
}
/*
* To change this license header, choose License Headers in Project Properties.
* To change this template file, choose Tools | Templates
* and open the template in the editor.
*/
package resume;
/**
*
* @author DJSCE.Student
*/
public class Qualification extends javax.swing.JFrame {
/**
* Creates new form Qualification
*/
public Qualification() {
initComponents();
}
```

```
/**
* This method is called from within the constructor to initialize the form.
* WARNING: Do NOT modify this code. The content of this method is always
* regenerated by the Form Editor.
*/
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {
jButton2 = new javax.swing.JButton();
jLabel1 = new javax.swing.JLabel();
jButton1 = new javax.swing.JButton();
jButton3 = new javax.swing.JButton();
jLabel2 = new javax.swing.JLabel();
jTextField1 = new javax.swing.JTextField();
jLabel3 = new javax.swing.JLabel();
jTextField2 = new javax.swing.JTextField();
jLabel4 = new javax.swing.JLabel();
jTextField3 = new javax.swing.JTextField();
jButton2.setText("NEXT");
setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
jLabel1.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel1.setText("EDUCATIONAL QUALIFICATIONS");
jButton1.setText("NEXT");
jButton1.addActionListener(new java.awt.event.ActionListener() {
```

```
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton1ActionPerformed(evt);
}
});
jButton3.setText("PREV");
jButton3.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton3ActionPerformed(evt);
}
});
jLabel2.setText("NAME OF COLLEGE");
jTextField1.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jTextField1ActionPerformed(evt);
}
});
jLabel3.setText("BRANCH");
jTextField2.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jTextField2ActionPerformed(evt);
}
});
jLabel4.setText("CGPA");
jTextField3.addActionListener(new java.awt.event.ActionListener() {
```

```
public void actionPerformed(java.awt.event.ActionEvent evt) {

jTextField3ActionPerformed(evt);

}

});

javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

.addComponent(jButton3)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jButton1))

.addGroup(layout.createSequentialGroup()

.addGap(99, 99, 99)

.addComponent(jLabel1)

.addGap(0, 0, Short.MAX_VALUE)))

.addContainerGap())

.addGroup(layout.createSequentialGroup()

.addGap(50, 50, 50)
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAI
LING)

.addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 123,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 123,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 123,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)

.addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED_SIZE, 181,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jTextField2, javax.swing.GroupLayout.PREFERRED_SIZE, 181,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jTextField3, javax.swing.GroupLayout.PREFERRED_SIZE, 181,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addContainerGap(40, Short.MAX_VALUE))

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 32,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addGap(29, 29, 29)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 27,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
.addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)

.addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 27,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jTextField2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)

.addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 27,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jTextField3, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
112, Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)

.addComponent(jButton1)

.addComponent(jButton3))

.addContainerGap())

);

pack();

}// </editor-fold>
```

```
private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
PersonalInfo p=new PersonalInfo();
setVisible(false);
p.setVisible(true);
}
private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
ExtraCuricular e=new ExtraCuricular();
setVisible(false);
e.setVisible(true);
}
private void jTextField1ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
}
private void jTextField2ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
}
private void jTextField3ActionPerformed(java.awt.event.ActionEvent evt) {
// TODO add your handling code here:
}
/**
* @param args the command line arguments
*/
```

```
public static void main(String args[]) {

/* Set the Nimbus look and feel */

//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">

/* If Nimbus (introduced in Java SE 6) is not available, stay with the default look
and feel.

* For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

*/

try {

for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}

}

} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(Qualification.class.getName()).log(java.util.log
ging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(Qualification.class.getName()).log(java.util.log
ging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(Qualification.class.getName()).log(java.util.log
ging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {
```

```
java.util.logging.Logger.getLogger(Qualification.class.getName()).log(java.util.log
ging.Level.SEVERE, null, ex);

}

//</editor-fold>

/* Create and display the form */

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new Qualification().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JButton jButton1;

private javax.swing.JButton jButton2;

private javax.swing.JButton jButton3;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;

private javax.swing.JLabel jLabel4;

private javax.swing.JTextField jTextField1;

private javax.swing.JTextField jTextField2;

private javax.swing.JTextField jTextField3;

// End of variables declaration

}
```

```
/*
* To change this license header, choose License Headers in Project Properties.
* To change this template file, choose Tools | Templates
* and open the template in the editor.
*/
package resume;
import javax.swing.JOptionPane;
/**
*
* @author DJSCE.Student
*/
public class ExtraCuricular extends javax.swing.JFrame {
/**
* Creates new form ExtraCuricular
*/
public ExtraCuricular() {
initComponents();
}
/**
* This method is called from within the constructor to initialize the form.
* WARNING: Do NOT modify this code. The content of this method is always
* regenerated by the Form Editor.
*/
@SuppressWarnings("unchecked")
```

```
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {
jLabel1 = new javax.swing.JLabel();
jButton1 = new javax.swing.JButton();
jButton2 = new javax.swing.JButton();
jLabel2 = new javax.swing.JLabel();
jLabel3 = new javax.swing.JLabel();
jScrollPane1 = new javax.swing.JScrollPane();
jTextArea1 = new javax.swing.JTextArea();
jLabel1.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel1.setText("EDUCATIONAL QUALIFICATIONS");
setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
jButton1.setText("SUBMIT");
jButton1.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton1ActionPerformed(evt);
}
});
jButton2.setText("PREV");
jButton2.addActionListener(new java.awt.event.ActionListener() {
public void actionPerformed(java.awt.event.ActionEvent evt) {
jButton2ActionPerformed(evt);
}
});
```

```
jLabel2.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N

jLabel2.setText("EXTRACURICULARS");

jLabel3.setText("ENTER YOUR EXTRACURICULAR
ACTIVITIES/ACHIEVEMENTS/HOBBIES");

jTextArea1.setColumns(20);

jTextArea1.setRows(5);

jScrollPane1.setViewportView(jTextArea1);

javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)

.addComponent(jButton2)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jButton1))

.addGroup(layout.createSequentialGroup()

.addGap(135, 135, 135)

.addComponent(jLabel2)

.addGap(0, 0, Short.MAX_VALUE)))
```

```
.addContainerGap())

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addGap(0, 17, Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAI
LING, false)

.addComponent(jScrollPane1)

.addComponent(jLabel3, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

.addGap(14, 14, 14))

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addContainerGap()

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 32,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 27,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 166,
Short.MAX_VALUE)

.addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)
```

```
.addComponent(jButton1)

.addComponent(jButton2))

.addContainerGap())

);

pack();

}// </editor-fold>

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

Qualification q=new Qualification();

setVisible(false);

q.setVisible(true);

}

vate void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

JOptionPane.showMessageDialog(this, "DATA SAVED SUCCESSFULLY!!");

}

/**

* @param args the command line arguments

*/

public static void main(String args[]) {

/* Set the Nimbus look and feel */

//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

/* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
```

```
* For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

*/

try {

for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}

}

} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(ExtraCuricular.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(ExtraCuricular.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(ExtraCuricular.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(ExtraCuricular.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);

}

//</editor-fold>

/* Create and display the form */
```

```
java.awt.EventQueue.invokeLater(new Runnable() {
public void run() {
new ExtraCuricular().setVisible(true);
}
});
}
// Variables declaration - do not modify
private javax.swing.JButton jButton1;
private javax.swing.JButton jButton2;
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel jLabel2;
private javax.swing.JLabel jLabel3;
private javax.swing.JScrollPane jScrollPane1;
private javax.swing.JTextArea jTextArea1;
// End of variables declaration
}
/*
* To change this license header, choose License Headers in Project Properties.
* To change this template file, choose Tools | Templates
* and open the template in the editor.
*/
package resume;
/**
*
```

```
* @author DJSCE.Student
*/
public class Resume {
public static void main(String[] args) {
// TODO code application logic here
PersonalInfo p=new PersonalInfo();
p.setVisible(true);
}
}
```

Experiment No. 5

```
import com.mysql.jdbc.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.util.Arrays;
import java.util.logging.Level;
import java.util.logging.Logger;
/*
* To change this license header, choose License Headers in Project Properties.
* To change this template file, choose Tools | Templates
* and open the template in the editor.
*/
```

```
/**
*
* @author DJSCE.Student
*/
public class LOGIN extends javax.swing.JFrame {
Statement stmt=null;
/**
* Creates new form LOGIN
*/
public LOGIN() {
initComponents();
}
/**
* This method is called from within the constructor to initialize the form.
* WARNING: Do NOT modify this code. The content of this method is always
* regenerated by the Form Editor.
*/
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {
t1 = new javax.swing.JTextField();
jButton1 = new javax.swing.JButton();
jButton2 = new javax.swing.JButton();
jLabel1 = new javax.swing.JLabel();
```

```
p1 = new javax.swing.JPasswordField();

jLabel2 = new javax.swing.JLabel();

jLabel3 = new javax.swing.JLabel();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

jButton1.setText("SUBMIT");

jButton1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton1ActionPerformed(evt);

}

});

jButton2.setText("CANCEL");

jLabel1.setText("USERNAME->");

jLabel2.setText("PASSWORD->");

jLabel3.setText("LOGIN");

javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addContainerGap()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
```

```
.addComponent(jButton2)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addComponent(jButton1)

.addGap(21, 21, 21))

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addGap(0, 69, Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)

.addComponent(jLabel2)

.addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 86,
javax.swing.GroupLayout.PREFERRED_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING, false)

.addComponent(t1, javax.swing.GroupLayout.DEFAULT_SIZE, 191,
Short.MAX_VALUE)

.addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 50,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(p1))

.addGap(38, 38, 38))))

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGap(50, 50, 50)
```

```
.addComponent(jLabel3)

.addGap(33, 33, 33)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)

.addComponent(t1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jLabel1))

.addGap(29, 29, 29)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)

.addComponent(p1, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addComponent(jLabel2))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 84,
Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)

.addComponent(jButton1)

.addComponent(jButton2))

.addGap(27, 27, 27))

);

pack();

}// </editor-fold>

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:
```

```
String Uname = t1.getText();

// System.out.println(Uname);

String pass = Arrays.toString(p1.getPassword());

// System.out.println(Arrays.toString(pass));

try (Connection con = (Connection)
DriverManager.getConnection("jdbc:mysql://localhost:3306/db2?user=root&pass
word=pass1234&characterEncoding=UTF-8"))

{

if(con!=null)

{

System.out.println("Connection to db");

}

// System.out.println("not Connection created");

try {

//step3 create the statement object

stmt=con.createStatement();

} catch (SQLException ex) {

Logger.getLogger(Login.class.getName()).log(Level.SEVERE, null, ex);

}

System.out.println("statement Prepared");

try {

stmt.executeUpdate("insert into LOGIN values('"+Uname+"','"+pass+"')");

} catch (SQLException ex) {

Logger.getLogger(Login.class.getName()).log(Level.SEVERE, null, ex);

}
```

```
// stmt.executeUpdate("select * from Registration");

ResultSet rs=stmt.executeQuery("select * from LOGIN");

while(rs.next())

System.out.println(rs.getString(1)+" "+rs.getString(2));

}

catch(SQLException ex){}

}

/**

* @param args the command line arguments

*/

public static void main(String args[]) {

/* Set the Nimbus look and feel */

//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">

/* If Nimbus (introduced in Java SE 6) is not available, stay with the default look
and feel.

* For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

*/

try {

for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}
```

```
}

} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(LOGIN.class.getName()).log(java.util.logging.
Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(LOGIN.class.getName()).log(java.util.logging.
Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(LOGIN.class.getName()).log(java.util.logging.
Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(LOGIN.class.getName()).log(java.util.logging.
Level.SEVERE, null, ex);

}

//</editor-fold>

/* Create and display the form */

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new LOGIN().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JButton jButton1;

private javax.swing.JButton jButton2;

private javax.swing.JLabel jLabel1;
```

```
private javax.swing.JLabel jLabel2;
private javax.swing.JLabel jLabel3;
private javax.swing.JPasswordField p1;
private javax.swing.JTextField t1;
// End of variables declaration
}
```

MySQL Code:

```
create database db2;
Use db2;
Create table Registration(
Username varchar(30),
Password varchar(30)
);
select *
from registration
```

Experiment No. 6

```
import java.lang.reflect.Method;
import java.lang.reflect.Field;
class Student{
private int attendance;
private int marks;
}
class Teacher{
```

```
public void setData()
{
try{
Student obj=new Student();
Class cls=obj.getClass();
Field[] fields=cls.getDeclaredFields();
for(Field data: fields)
data.setAccessible(true);
fields[0].set(obj, 83);
fields[1].set(obj, 95);
System.out.println("Your Attendance is: "+fields[0].get(obj)+"%");
System.out.println("Your Marks is: "+fields[1].get(obj));
}
catch(Exception e)
{
e.printStackTrace();
}
}
}
class Parent{
public static void main(String[] args)
{
Teacher teach=new Teacher();
Class t=teach.getClass();
```

```
try{
Method call=t.getDeclaredMethod("setData");
call.invoke(teach);
}
catch(Exception e)
{
e.printStackTrace();
}
}
}
```

Experiment No.7

```
import java.lang.*;
import java.util.Arrays;
import java.util.List;
import java.util.stream.*;
import java.util.Optional;
import java.util.Map;
class product{
int id;
String name;
int price;
product(int id,String name,int price)
{
this.id=id;
```

```
this.name=name;

this.price=price;

}

}

public class Streams{

public static void main(String args[])

{

product p1=new product(1, "soap", 10000);

product p2=new product(2, "mobile", 20000);

product p3=new product(3, "car", 30000);

product p4=new product(4, "ak-47", 40000);

product p5=new product(5, "computer", 10000);

product p6=new product(6, "mouse", 250000);

List<product> Product=Arrays.asList(p1,p2,p3,p4,p5,p6);

System.out.println("Name of Products with price greater than 30000 is: ");

List<product> result=Product.stream().filter(s-
>s.price<30000).collect(Collectors.toList());

result.stream().forEach(y->System.out.print(y.name+" "));

System.out.println();

System.out.println("Name of Products with price equal to 30000 is: ");

List<product> result1=Product.stream().filter(s-
>s.price==30000).collect(Collectors.toList());

result1.stream().forEach(y->System.out.print(y.name+" "));

System.out.println("\n");

int total=Product.stream().map(s->s.price).reduce(0,(ans,s)->ans+s);
```

```
System.out.println("Total: "+total);

System.out.println();

Optional<product> minProduct = Product.stream().min((pro1, pro2) ->
Integer.compare(pro1.price, pro2.price));

Optional<product> maxProduct = Product.stream().max((pro1, pro2) ->
Integer.compare(pro1.price, pro2.price));

minProduct.ifPresent(product -> System.out.println("Product with minimum cost:
" + product.name));

maxProduct.ifPresent(product -> System.out.println("Product with maximum cost:
" + product.name));

System.out.println();

long count=Product.stream().filter(s->s.price<30000).count();

System.out.println("No. of products with price less than 30000 are: "+count);

System.out.println();

Map<Integer,String> productMap=Product.stream().collect(Collectors.toMap(s-
>s.id,s->s.name));

System.out.println("Map is: "+productMap);

System.out.println();

}

}
```