PROGRAM:

```
class Student
{
    int rollno;
    string name;
    static String college="ACE";
    Student(int r, String n)
    {
        rollno=r;
        name=n;
    }
     static void hello()
    {
         System.out.println("Welcome to Adhiyamaan college");
    }
    void display()
    {
         System.out.println(rollno+"."+name+"."+college);
     }
    public static void main(String args[])
    {
        Student s1=new Student(10,"Arun");
        Student s2=new Student(20,"Kumar");
        s1.display();
        s2.display();
        hello();
    }
}
```

OUTPUT:

```
Welcome to Adhiyamaan college
10.Arun.ACE
20.Kumar.ACE
```

PROGRAM:

```
class Employee
{
    static int id;
    String name;
    String address;
    String phno;
    static void emp()
    {
        System.out.println("Employee id:"+id+"\n");
    }
   public static void main(String args[])
    {
        Employee emp1=new Employee();
        emp1.id=1689;
        emp1.phno="9999988888";
        emp1.address="Hosur";
        emp1.name="John";
        emp1.emp();
       System.out.println("Employee.name:"+ emp1.name+"\n");
       System.out.println("Employee.phno:"+ emp1.phno+"\n");
       System.out.println ("Employee.address:"+ emp1.address+"\n");
    }
}
```

OUTPUT:

```
Employee id:1689
Employee.name:John
Employee.phno:9999988888
Employee.address:Hosur
```

PROGRAM:

```
import java.util.Scanner;
class Area
{
int length;
int breadth;
int height;
int base;
int radius;
void rectangle ()
{
    System.out.println(length*breadth );
}
void triangle ()
{
    System.out.println(base*height*0.5);
}
void circle ()
{
    System.out.println(3.142*radius*radius);
}
static class Output extends Area{
void start()
{
    Scanner input=new Scanner(System.in);
    Output op=new Output();
    System.out.println("Find Area:\n 1.Rectangle\n2.Triangle\n3.Circle");
    int shape= input.nextInt();
    switch (shape)
    {
        case 1:
            System.out.println("Enter length:");
```

```
                int l= input.nextInt();
                op.length=l;
                System.out.println("Enter breadth:");
                int b= input.nextInt();
                op.breadth=b;
                op.rectangle();
                break;
          case 2:
                System.out.println("Enter base:");
                int ba= input.nextInt();
                op.base=ba;
                System.out.println("Enter base:");
                int h=input.nextInt();
                op.height=h;
                op.triangle();
                break;
          case 3:
                System.out.println("Enter radius:");
                int r= input.nextInt();
                op.radius=r;
                op.circle();
                break;
          default:
                System.out.println("Invalid input");
                break;
        }
    }
}
public static void main(String args[])
{
       Output op=new Output();
        op.start();
```

```
    }
}
```

OUTPUT:

```
Find area:
1.Rectangle
2.Triangle
3.Circle
3
Enter radius:10
314.2
```

PROGRAM:

```
Package MyPack;
Class Balance
{
    String name;
    double bal;
    Balance(String n,double b)
    {
        name=n;
        bal=b;
    }
    Void show()
    {
        if (bal<0)
            System.out.println("→");
            System.out.println(name+"$"+bal);
    }
    Class AccountBalance
    {
        Public static void main(String args[])
        {
            Balance current[]=new Balance [3];
            Current[0]=new Balance("K.J.John",155.33);
            Current[1]=new Balance("K.L.Loki",155.33);
            Current[2]=new Balance("Amar",-155.33);
            for(int i=0;i<3;i++)
            {
                Current[i].show();
            }
        }
    }
```

OUTPUT:

→

K.J.John$155.33

→

K.L.Loki$155.33

PROGRAM:

```
interface Printable
 {
      void show();
 }
 interface showable
 {
       void show();
   }
 class Test implements Printable,showable
  {
       public void print()
       {
            System.out.println("Hello");
       }
       public void show()
       {
            System.out.println("Welcome");
       }
       public static void main(String args[])
       {
            Test obj=new Test();
            obj.print();
            obj.show();
       }
}
```

OUTPUT:

```
Hello
Welcome
```

PROGRAM:

```
class ThrowDemo
{
        static void throwone() throwsIllegalAccessException
        {
                System.out.println("Inside Throw One");
                throw new IllegalAccessException("Demo");
         }
         public static void main(String args[])
        {
              try
               {
                    throwone();
               }
               catch(IllegalAccessException  e)
              {
                   System.out.println("caught:"+e);
               }
        }
 }
```

OUTPUT:

```
Inside throw one
Caught:java.lang.IllegalAccessException:Demo
```

PROGRAM:

```
class MultithreadingDemo extends Thread
{
    public void run()
    {
        try
        {
            System.out.println( "Thread " + Thread.currentThread().getId() + " is
running");
        }
        catch (Exception e)
        {
            System.out.println("Exception is caught");
        }
    }
}
Class public class Multithread
{
    public static void main(String[] args)
    {
        int n = 8;
        for (int i = 0; i < n; i++)
        {
            MultithreadingDemo object = new MultithreadingDemo();
            object.start();
        }
    }
}
```

OUTPUT:

Thread 15 is running

Thread 14 is running

Thread 16 is running

Thread 12 is running

Thread 11 is running

Thread 13 is running

Thread 18 is running

Thread 17 is running

PROGRAM:

```
import java.util.ArrayList;
import java.util.HashMap;
import java.util.HashSet;
import java.util.Map;
import java.util.Set;
public class CollectionExample
{
    public static void main(String[] args)
    {
        Array List<String> arrayList = new Array List<>();
        arrayList.add("Apple");
        arrayList.add("Banana");
        arrayList.add("Orange");
        Map<String, Integer> map = new HashMap<>();
        map.put("One", 1);
        map.put("Two", 2);
        map.put("Three", 3);
        Set<String> set = new HashSet<>();
        set.add("Red");
        set.add("Green");
        set.add("Blue");
        System.out.println("Array List Elements:");
        for (String fruit : arrayList)
        {
            System.out.println(fruit);
        }
        System.out.println("\nMap Elements:");
        for (Map.Entry<String, Integer> entry : map.entrySet())
        {
            System.out.println(entry.getKey() + ": " + entry.getValue());
        }
```

```
        System.out.println("\nSet Elements:");
        for (String color : set)
        {
            System.out.println(color);
        }
    }
}
```

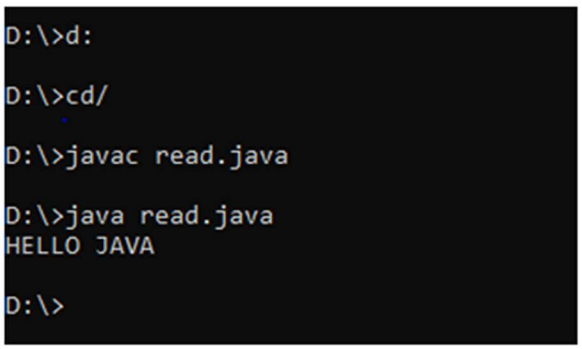
OUTPUT:

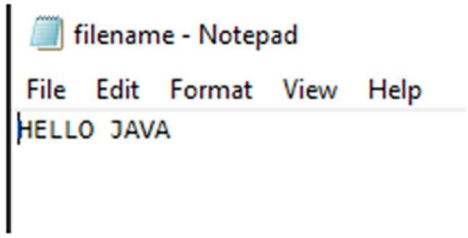
```
Array List Elements:
Apple
Banana
Orange
Map Elements:
One: 1
Two: 2
Three: 3
Set Elements:
Red
Green
Blue
```

PROGRAM:

```
import java.io.File;
import java.io.FileNotFoundException;
import java.util.Scanner;
class file
{
    public static void main(String args[])
    {
        try
        {
            File f = new File("filename.txt");
            Scanner read = new Scanner(f);
            while (read.hasNextLine())
            {
                System.out.println(read.nextLine());
            }
            read.close();
        }
        catch(FileNotFoundException exception)
        {
            System.out.println("ERROR");
        }
    }
}
```

OUTPUT:

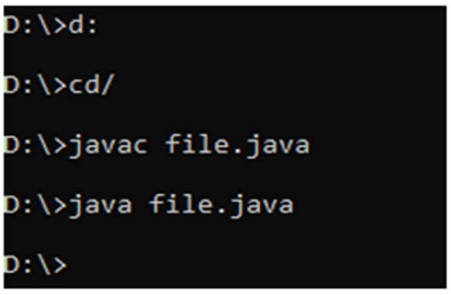


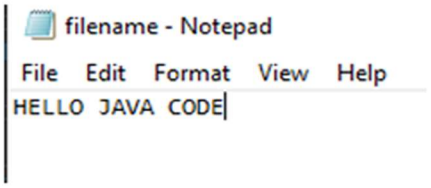


PROGRAM:

```
import java.io.File;
import java.io.FileWriter;
import java.util.Scanner;
class file
{
    public static void main(String args[])
    {
        try
        {
            File f = new File("filename.txt");
            FileWriter fw=new FileWriter(f);
            fw.write("HELLO JAVA CODE");
            fw.close();
        }
        catch(Exception E)
        {
            System.out.println("ERROR");
        }
    }
}
```

OUTPUT:





PROGRAM:

```
public class StringHandlingExample
{
    public static void main(String[] args)
    {
        String str1 = "Hello,";
        String str2 = " World!";
        String combinedString = str1 + str2;
        System.out.println("String 1: " + str1);
        System.out.println("String 2: " + str2);
        System.out.println("Combined String: " + combinedString);
        int length = combinedString.length();
        System.out.println("Length of the combined string: " + length);
        char firstChar = combinedString.charAt(0);
        char lastChar = combinedString.charAt(length - 1);
        System.out.println("First character: " + firstChar);
        System.out.println("Last character: " + lastChar);
        String substring = combinedString.substring(7, 12);
        System.out.println("Substring: " + substring);
        String concatString = str1.concat(str2);
        System.out.println("Concatenated String: " + concatString);
        String str3 = "Hello, World!";
        boolean areEqual = combinedString.equals(str3);
        System.out.println("Are the strings equal? " + areEqual);
        String upperCase = combinedString.toUpperCase();
        String lowerCase = combinedString.toLowerCase();
        System.out.println("Uppercase: " + upperCase);
        System.out.println("Lowercase: " + lowerCase);
        boolean containsHello = combinedString.contains("Hello");
        System.out.println("Does the string contain 'Hello'? " +
        containsHello);
        String sentence = "Java is fun!";
        String[] words = sentence.split(" ");
```

```
            System.out.println("Words in the sentence:");
            for (String word : words)
            {
                System.out.println(word);
            }
        }
    }
```

OUTPUT:

```
String 1: Hello,
String 2:  World!
Combined String: Hello, World!
Length of the combined string: 13
First character: H
Last character: !
Substring: World
Concatenated String: Hello, World!
Are the strings equal? true
Uppercase: HELLO, WORLD!
Lowercase: hello, world!
Does the string contain 'Hello'? true
Words in the sentence:
Java
is
fun!
```

PROGRAM:

```
package jdbcswing;
import java.awt.Container;
import java.awt.GridLayout;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.Statement;
import javax.swing.BoxLayout;
import javax.swing.JButton;
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import javax.swing.JPanel;
import javax.swing.JTextField;
public class JDBCSwing implements ActionListener
{
JLabel IbIFName,lblLname, IblAddress,lblSalary, IbIF, IbIL,IbIA, IbIS,
IblFVal,IbILVal,lblAval,lblSVal;
JTextField txtFName,txtLName,txtAddress,txtSalary;
JButton btnAdd,btn Update,btnDelete,btnPrev,btnNext;
ResultSet rs;
public static void main(String[] args)
{
JDBCSwing obj = new JDBCSwing();
obj.createUI();
}
private void create UI()
{
JFrame frame = new JFrame("JDBC All in One"); JPanel pnlInput = new
JPanel(new GridLayout(4,2));
```

```
IblFName = new JLabel("First Name: ");
txtFName = new JTextField(15);
IblLname = new JLabel(" Last Name: ");
txtLName = new JTextField();
IblAddress = new JLabel(" Address: ");
txtAddress = new JTextField();
IblSalary = new JLabel(" Salary: ");
txtSalary = new JTextField();
pnlInput.add(lb|FName);
pnlInput.add(txtFName);
pnlInput.add(lblLname);
pnlInput.add(txtLName);
pnlInput.add(lblAddress);
pnlInput.add(txtAddress);
pnlInput.add(lblSalary);
pnlInput.add(txtSalary);
JPanel pnlButton = new JPanel(new GridLayout(1,3));
btnAdd = new JButton("Add");
btnAdd.addActionListener(this);
btnUpdate = new JButton("Update");
btnUpdate.addActionListener(this);
btnDelete = new JButton("Delete");
btnDelete.addActionListener(this);
pnlButton.add(btnAdd);
pnlButton.add(btnUpdate);
pnlButton.add(btnDelete);
JPanel pnlNavigate = new JPanel(new GridLayout(1,2));
btnPrev = new JButton(" << ");
btnPrev.setActionCommand("Prev");
btnPrev.addActionListener(this);
btnNext = new JButton(">>");
btnNext.setActionCommand("Next");
```

```
btnNext.addActionListener(this);
pnlNavigate.add(btnPrev);
pnlNavigate.add(btnNext);
JPanel pnlNavAns = new JPanel(new GridLayout(4,2));
lblF = new JLabel(" First Name: ");
IblFVal = new JLabel("Val");
IblL = new JLabel(" Last Name: ");
IblLVal = new JLabel("Val");
IbIA= new JLabel(" Address: ");
IblaVal = new JLabel("Val");
lblS = new JLabel(" Salary: ");
lblSVal = new JLabel("Val");
pnlNavAns.add(IbIF);
pnlNavAns.add(IbIFVal);
pnlNavAns.add(IbIL);
pnlNavAns.add(IbILVal);
pnlNavAns.add(lb|A);
pnlNavAns.add(IblAVal);
pnlNavAns.add(lblS);
pnlNavAns.add(lblVal);
Container cn = frame.getContentPane();
cn.setLayout(new BoxLayout(cn, BoxLayout.Y_AXIS));
frame.add(pnlInput);
frame.add(pnlButton);
frame.add(pnlNavAns);
frame.add(pnlNavigate);
}
frame.setDefaultCloseOperation (JFrame.EXIT_ON_CLOSE);
frame.pack();
frame.setVisible(true);
@Override
public void action Performed (ActionEvent evt)
```

```
{
String action = evt.getActionCommand();
if(action.equals("Add"))
{
addOperation();
}
else if(action.equals("Update"))
{
updateOperation();
}
else if(action.equals("Delete"))
{
deleteOperation();
}
else if(action.equals("Prev"))
{
preNavigation();
}
else if(action.equals("Next"))
{
nextNavigation();
}
private void addOperation()
try
{
Class.forName("oracle.jdbc.Oracle Driver");
Connection con
=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE","SYSTE
M","SYSTEM");
String sql = "INSERT INTO Employee1 (FName, LName, Address, Salary) " +
"Values ("'+txtFName.getText()+"'," ++txtLName.getText()+","
+'+txtAddress.getText()+"," +"'"'+txtSalary.getText()+"')";
Statement st = con.createStatement();
```

```
st.execute(sql);
JOptionPane.showMessage Dialog(null, "Record Added Succesfully.","Record
Added",
JOptionPane.INFORMATION_MESSAGE);
}
clearControls();
}
catch(Exception e)
{
JOptionPane.showMessageDialog(null, e.getMessage(), "Error",
JOptionPane.ERROR_MESSAGE);
{
private void update Operation()
try
{
Class.forName("oracle.jdbc.Oracle Driver");
Connection con =
DriverManager.getConnection("jdbc:oracle:thin:
@localhost:1521:XE","SYSTEM","SYSTEM");
String sql = "Update Employee1" +
"SET LName = ""+txtLName.getText()+"," +
"Address = ""+txtAddress.getText()+"","+
"Salary = ""+txtSalary.getText()+""" +
"Where FName = ""+txtFName.getText()+""";
JOptionPane.showMessageDialog(null, sql,"Record Updated",
JOptionPane.INFORMATION_MESSAGE);
Statement st = con.createStatement();
st.execute(sql);
JOptionPane.showMessageDialog(null, "Record Update Succesfully.",
"Record Updated", JOptionPane.INFORMATION_MESSAGE);
clearControls();
}
catch(Exception e)
```

```
{
}
}
JOptionPane.showMessageDialog(null, e.getMessage(), "Error",
JOptionPane.ERROR_MESSAGE);
{
private void delete Operation()
int ans = JOptionPane.showConfirm Dialog(null,
"Are you sure to delete the Record ?", "Delete Record",
JOptionPane.YES_NO_OPTION);
if(ans == JOptionPane. YES_OPTION)
{
try
{
Class.forName("oracle.jdbc.Oracle Driver");
Connection con =
DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE","SYSTEM
","SYSTEM");
String sql = "Delete FROM Employee1 where FName =
""+txtFName.getText()+"'";
Statement st = con.createStatement();
st.execute(sql);
}
catch(Exception e)
{
JOptionPane.showMessageDialog(null, e.getMessage(), "Error",
JOptionPane.ERROR_MESSAGE);
}
JOptionPane.showMessageDialog(null, "Record Deleted","Success",
JOptionPane.INFORMATION_MESSAGE);
}
else
{
```

```
JOptionPane.showMessageDialog(null, "Operation Canceled","Cancel",
JOptionPane.INFORMATION_MESSAGE);
}
}
private void pre Navigation()
{
try
{
if(rs == null)
{
Class.forName("oracle.jdbc.Oracle Driver");
Connection con =
DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE","SYSTEM
","SYSTEM");
String sql = "SELECT * FROM Employee";
Statement st = con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,
ResultSet.CONCUR_UPDATABLE);
rs = st.executeQuery(sql);
}
if(rs.previous())
{
populateValue();
}
}catch(Exception e)
{
}
}
JOptionPane.showMessageDialog(null, e.getMessage(), "Error",
JOptionPane.ERROR_MESSAGE);
private void nextNavigation()
{
try
{
```

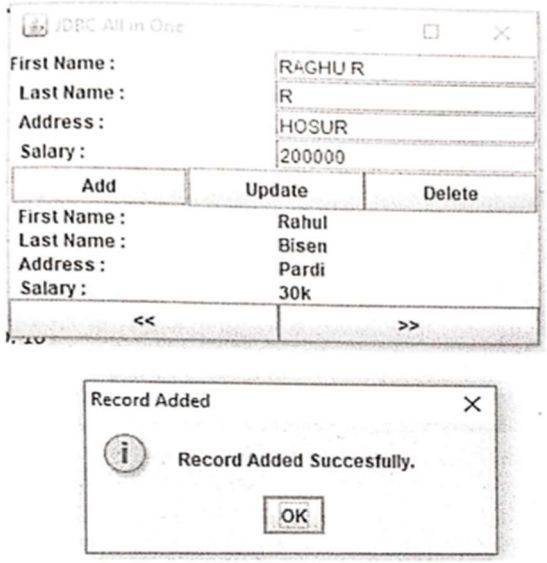
```
if(rs == null)
{

Class.forName("oracle.jdbc.Oracle Driver");
Connection con =
DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE","SYSTEM
","SYSTEM");
String sql = "SELECT * FROM Employee";
Statement st = con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,
ResultSet.CONCUR_UPDATABLE);
rs = st.executeQuery(sql);
}
if(rs.next())
{
populateValue();
}
}catch(Exception e)
{
}
}
JOptionPane.showMessageDialog(null, e.getMessage(), "Error",
JOptionPane.ERROR_MESSAGE);
{
private void populateValue() throws Exception
String fName = rs.getString("FName");
String IName = rs.getString("LName");
String add = rs.getString("Address");
String sal = rs.getString("Salary");
IblFVal.setText(fName);
IblLVal.setText(IName);
IblAVal.setText(add);
lblSVal.setText(sal);
}
```

```
{
txtFName.setText(fName);
txtLName.setText(IName);
txtAddress.setText(add);
txtSalary.setText(sal);
private void clearControls()
{
txtFName.setText("");
txtLName.setText("");
txtAddress.setText("");
txtSalary.setText("");
}
}
```

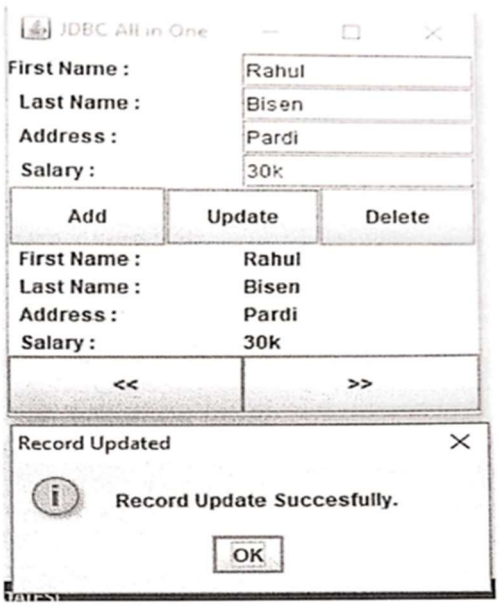
OUTPUT:

```
E:\>set path="E:\jdk1.7.0_80\bin"
E:\>javac JDBCSwing.java
E:\>java JDBCSwing
```

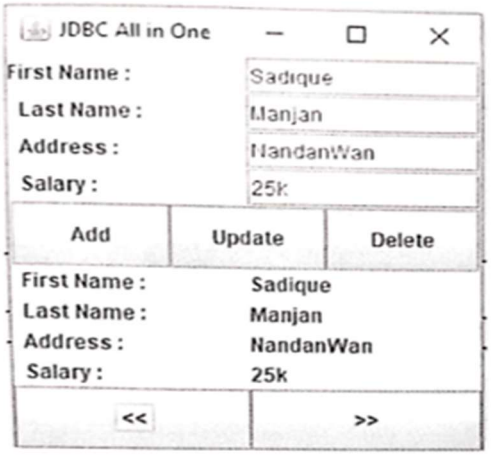
ADD RECORD:



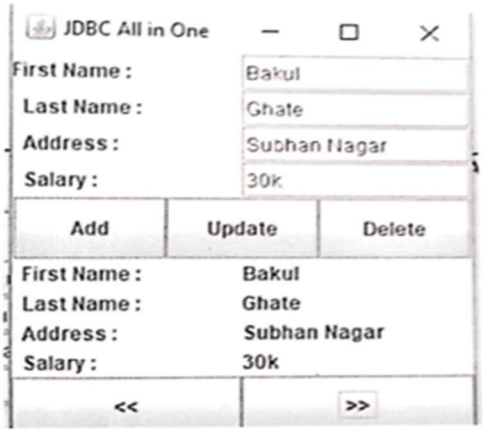
UPDATE RECORD:



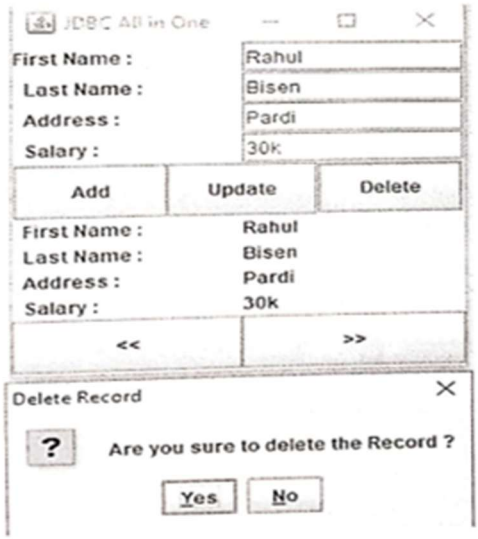
DELETE:



AFTER DELETION:



LEFT FORWARD:



RIGHT FORWARD: