



**SCTR's PUNE INSTITUTE OF COMPUTER TECHNOLOGY PUNE - 411043**

**Department of Electronics & Telecommunication Engineering (E&TE)**

**ASSESSMENT YEAR: 2022-2023**

**CLASS: TE**

**BATCH:-N6**

**SUBJECT: Advanced JAVA Programming**

**Assignment No:1**

**Roll No: 32282**

**Date:**

**Programmer Name: Yash Mukesh Rupchandani**

**Batch: N6**

**Problem Statement:** Write a program to demonstrate status of key on an Applet window such as KeyPressed, KeyReleased, KeyTyped.

## **Code:**

```
import java.awt.*;
import java.awt.event.*;

public class Key_Listener_Example extends WindowAdapter implements KeyListener {
    Frame F;
    Label L;
    TextArea A;

    Key_Listener_Example(){
        F = new Frame();
        F.setVisible(true);
        F.setLayout(null);
        F.setSize(400,400);
        F.setTitle("KEY LISTENER EXAMPLE");
        init();
        addcomponent();
    }

    void init() {
        L = new Label();
        L.setBounds( 30, 30, 120, 30);
        A = new TextArea();
        A.setBounds( 30, 80, 250, 250);
        A.addKeyListener(this);
    }
}
```



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**Date:**

```
void addcomponent() {
    F.add(L);
    F.add(A);
    F.addWindowListener(this);
}

public void keyPressed(KeyEvent e) {
    L.setText("KeyPressed");
}

public void keyReleased(KeyEvent e) {
    L.setText("KeyReleased");
}

public void keyTyped(KeyEvent e) {
    L.setText("KeyTyped");
}

public void windowClosing(WindowEvent e) {
    F.dispose();
}

public static void main(String[] args) {
    // TODO Auto-generated method stub
    new Key_Listener_Example();
}
}
```



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**BATCH:-N6**

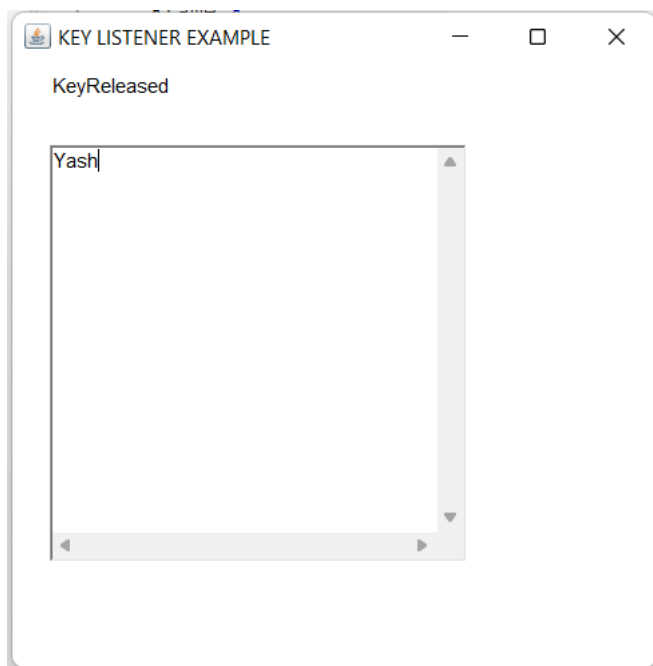
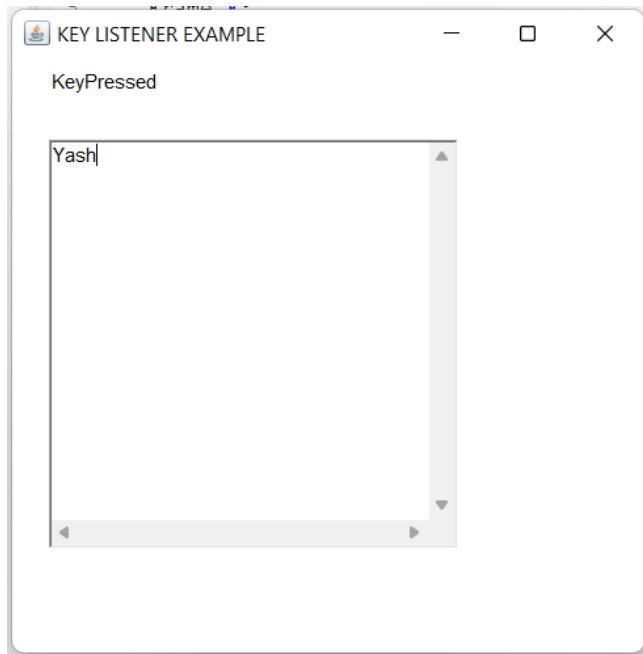
**SUBJECT: Advanced JAVA Programming**

**Assignment No:1**

**Roll No: 32282**

**Date:**

## Output:





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**CLASS: TE**

**BATCH:-N6**

**SUBJECT: Advanced JAVA Programming**

**Assignment No:2**

**Roll No: 32282**

**Date:**

**Programmer Name: Yash Mukesh Rupchandani**

**Batch: N6**

**Problem Statement:** Write a program to create a frame using AWT. Implement mouseClicked(), mouseEntered() and mouseExited() events. Frame should become visible when the mouse enters it.

## **Code:**

```
import java.awt.*;
import java.awt.event.*;

public class Mouse_Listener_Example extends WindowAdapter implements MouseListener {
    Frame F;
    Label L;
    Mouse_Listener_Example(){
        F = new Frame();
        F.setVisible(true);
        F.setLayout(null);
        F.setSize(400,400);
        F.setTitle("Mouse Listener Example");
        init();
        addcomponent();
    }
    void init() {
        L = new Label();
        L.setBounds(30, 50, 120, 30);
    }
    void addcomponent() {
        F.add(L);
        F.addWindowListener(this);
        F.addMouseListener(this);
    }
}
```



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**SUBJECT: Advanced JAVA Programming**

**Assignment No:2**

**Roll No: 32282**

**Date:**

```
public void mouseClicked(MouseEvent e) {
    F.setBackground(Color.red );
    L.setText("mouseClicked");
}

public void mousePressed(MouseEvent e) {
    F.setBackground(Color.green );
    L.setText("mousePressed");
}

public void mouseReleased(MouseEvent e) {
    F.setBackground(Color.lightGray );
    L.setText("mouseReleased");
}

public void mouseEntered(MouseEvent e) {
    F.setBackground(Color.yellow );
    L.setText("mouseEntered");
}

public void mouseExited(MouseEvent e) {
    F.setBackground(Color.ORANGE );
    L.setText("mouseExited");
}

public void windowClosing(WindowEvent e) {
    F.dispose();
}

public static void main(String[] args) {
    // TODO Auto-generated method stub
    new Mouse_Listener_Example();
}
}
```



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CLASS: TE

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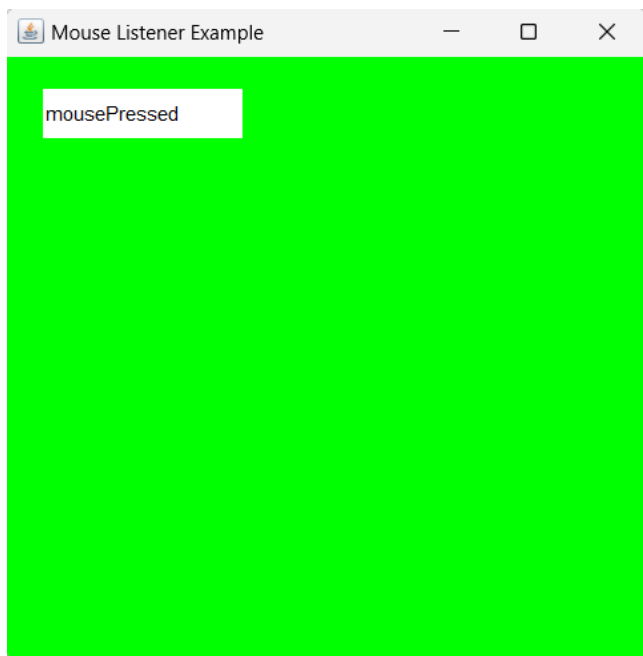
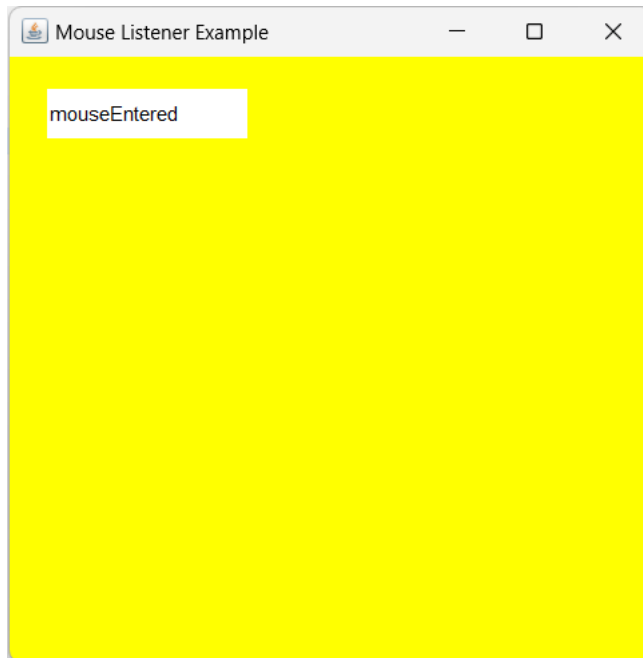
**SUBJECT: Advanced JAVA Programming**

**Assignment No:2**

**Roll No: 32282**

**Date:**

## Output:





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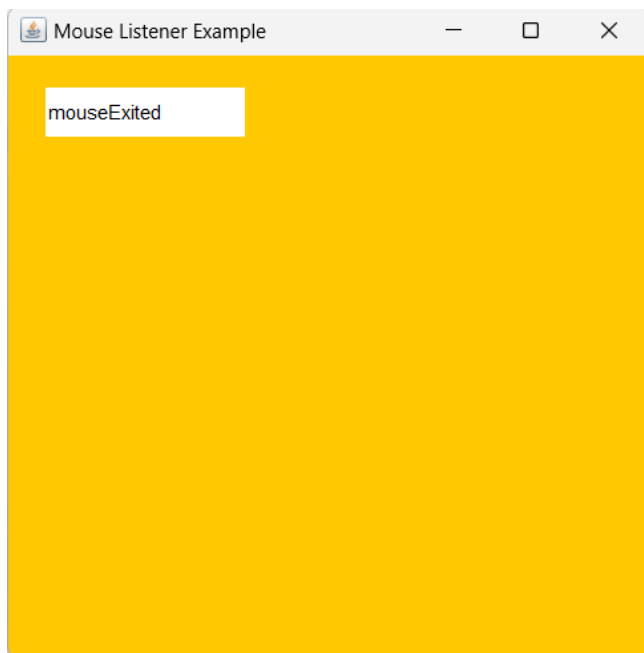
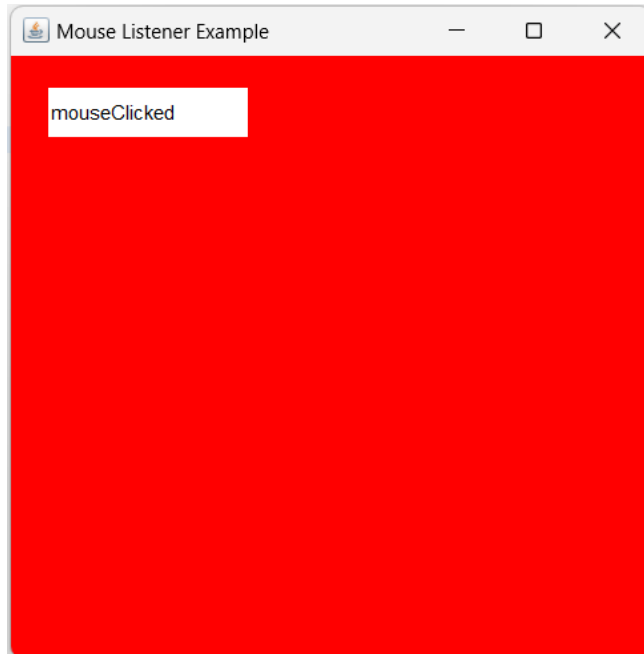
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**SUBJECT: Advanced JAVA Programming**

**Assignment No:2**

**Roll No: 32282**

**Date:**





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**ASSESSMENT YEAR: 2022-2023**

**CLASS: TE**

**BATCH:-N6**

**SUBJECT: Advanced JAVA Programming**

**Assignment No:3**

**Roll No: 32282**

**Date:**

**Programmer Name: Yash Mukesh Rupchandani**

**Batch: N6**

**Problem Statement:** Develop a GUI which accepts the information regarding the marks for all the subjects of a student in the examination. Display the result for a student in a separate window.

## Code:

```
import java.awt.event.*;
import javax.swing.*;

public class Percentage_Calculator implements ActionListener{
    JFrame F;
    JLabel l1,l2,l3,l4,l5,l6,l7,l8,l9,l10;
    JButton b1,b2;
    JTextField tf1, tf2, tf3, tf4, tf5, tf6, tf7;
    JComboBox jc1,jc2;
    String div[]={" Select ","TE5","TE6","TE7","TE8"};
    String dept[]={" Select ","CS","ENTC","IT"};

    Percentage_Calculator(){
        F=new JFrame();
        F.setLayout(null);
        F.setVisible(true);
        F.setTitle("Percentage Calculator");
        init();
        addcomp();
    }

    public void init() {
        //basic information
        l1= new JLabel();
        l1.setBounds(40,20,100,20);
        l1.setText("Name: ");
        tf1 = new JTextField();
        tf1.setBounds(125, 20, 200, 20);
        l2= new JLabel();
        l2.setBounds(40,50,60,20);
```





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**SUBJECT: Advanced JAVA Programming**

**Assignment No:3**

**Roll No: 32282**

**Date:**

```
l2.setText("Roll No: ");
tf2 = new JTextField();
tf2.setBounds(125, 50, 200, 20);
l3= new JLabel();
l3.setBounds(40,80,100,20);
l3.setText("Seat No: ");
tf3 = new JTextField();
tf3.setBounds(125, 80, 200, 20);
```

// jcombobox for dept and div

```
l4= new JLabel();
l4.setBounds(40,110,200,20);
l4.setText("Department: ");
jc1=new JComboBox(dept);
jc1.setBounds(125, 110, 100, 20);
l5= new JLabel();
l5.setBounds(40,140,75,20);
l5.setText("Divison: ");
jc2=new JComboBox(div);
jc2.setBounds(125, 140, 100, 20);
```

// heading

```
l10= new JLabel();
l10.setBounds(110,195,260,20);
l10.setText("Marks in subject out of 100 : ");
```

//marks

```
l6 = new JLabel();
l6.setBounds(40,230,60,20);
l6.setText("AJP: ");
tf4 = new JTextField();
tf4.setBounds(125, 230, 150, 20);
l7= new JLabel();
l7.setBounds(40,265,60,20);
l7.setText("PDC: ");
tf5 = new JTextField();
tf5.setBounds(125, 265, 150, 20);
l8= new JLabel();
```



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**Assignment No:3**

**Roll No: 32282**

**Date:**

```
l8.setBounds(40,300,60,20);
l8.setText("PM: ");
tf6 = new JTextField();
tf6.setBounds(125, 300, 150, 20);
l9= new JLabel();
l9.setBounds(40,335,60,20);
l9.setText("CN: ");
tf7 = new JTextField();
tf7.setBounds(125, 335, 150, 20);
```

```
//buttons
```

```
b1=new JButton();
b1.setText("Calculate");
b1.setBounds(60, 415, 100, 20);
b2=new JButton();
b2.setText("Cancel");
b2.setBounds(200, 415, 100, 20);
```

```
}
```

```
public void addcomp() {
    F.setSize(400,500);
    F.add(l1);
    F.add(tf1);
    F.add(l2);
    F.add(tf2);
    F.add(l3);
    F.add(tf3);

    F.add(l4);
    F.add(jc1);
    F.add(l5);
    F.add(jc2);

    F.add(l10);

    F.add(l6);
    F.add(tf4);
```



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**Assignment No:3**

**Roll No: 32282**

**Date:**

```
F.add(l7);  
F.add(tf5);  
F.add(l8);  
F.add(tf6);  
F.add(l9);  
F.add(tf7);
```

```
F.add(b1);  
F.add(b2);
```

```
b1.addActionListener(this);  
b2.addActionListener(this);
```

```
}
```

```
public void actionPerformed(ActionEvent e) {
```

```
    //Getting data from user
```

```
    String s1 = tf4.getText();  
    String s2= tf5.getText();  
    String s3= tf6.getText();  
    String s4= tf7.getText();  
    Double result;
```

```
    //Checking Empty values
```

```
    if ( jc1.getSelectedIndex() == 0 || jc2.getSelectedIndex() == 0 ||  
        tf1.getText().equals("") || tf2.getText().equals("") ||  
        tf3.getText().equals("") || tf4.getText().equals("") ||  
        tf5.getText().equals("") || tf6.getText().equals("") ||  
        tf7.getText().equals("") )  
    {
```

```
        JOptionPane.showMessageDialog(null, "Invalid Input", "Getting  
        Error", JOptionPane.ERROR_MESSAGE);
```

```
    }
```

```
    else{
```

```
        //data converted into double
```

```
        Double num1=Double.parseDouble(s1);  
        Double num2=Double.parseDouble(s2);  
        Double num3=Double.parseDouble(s3);  
        Double num4=Double.parseDouble(s4);
```



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**SUBJECT: Advanced JAVA Programming**

**Assignment No:3**

**Roll No: 32282**

**Date:**

//calculations and dialog box display

if(e.getSource()==b1) {

F.setVisible(false);

result=((num1+num2+num3+num4)/400)\*100;

JOptionPane.showMessageDialog( F, "Name: "

+tf1.getText() +"\r\n"

+"Roll No:" +tf2.getText() +"\r\n"

+"Seat No: " +tf3.getText() +"\r\n"

+"Department: " +jc1.getSelectedItem() +"\r\n"

+"Divison: " +jc2.getSelectedItem() +"\r\n"

+"Percentage:" +result.toString(),"Result",

JOptionPane.INFORMATION\_MESSAGE );

}

else {F.setVisible(false);}

}

}

public static void main(String[] args) {

new Percentage\_Calculator();

}

}



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**BATCH:-N6**

**SUBJECT: Advanced JAVA Programming**

**Assignment No:3**

**Roll No: 32282**

**Date:**

## Output:

Percentage Calculator

Name:

Roll No:

Seat No:

Department:

Divison:

Marks in subject out of 100 :

AJP:

PDC:

PM:

CN:

Percentage Calculator

Name:

Roll No:

Seat No:

Department:

Divison:

Marks in subject out of 100 :


AJP:

PDC:

PM:

CN:

Result

 **Name: Yash Rupchandani**  
**Roll No:32282**  
**Seat No: T190053242**  
**Department: ENTC**  
**Divison: TE6**  
**Percentage: 84.5**



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**Department of Electronics & Telecommunication Engineering (E&TE)**

**ASSESTMENT YEAR: 2022-2023**

**CLASS: TE**

**BATCH: N6**

**Subject: - Advanced JAVA Programming (304195)**

**Assignment No:4**

**Roll No: 32282**

**Date:**

**Programmer Name : Yash Rupchandani**

**Batch:N6**

**Problem Statement:** Create a database and perform the operation as insert and retrieve the data from the database using JDBC.

### **Code :**

```
import java.util.Scanner;
import java.sql.*;
```

```
public class Example {
```

```
    Connection con;//7th Task
```

```
    Derived data; //15th Task
```

```
    Example() //2nd task
```

```
{
```

```
    data=new Derived(); //15th Task
```

```
}
```

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

```
{
```

```
        Example obj=new Example();//1st task
```

```
        obj.getConnection();//3rd task
```

```
        Scanner in=new Scanner(System.in);//10th Task
```

```
        int ch;
```

```
        try
```

```
{
```

```
            do
```

```
{
```

```
                System.out.println("Select the operation");
```

```
                System.out.println("\n1.Create the table \n2.Insert the data \n3.Fetch Data
```

```
\n4.Delete Record \n5.Update Record \n6.Search Record \n7.Close Connection");
```

```
                int choice =in.nextInt();
```

```
                switch(choice)
```

```
{
```

```
                    case 1:obj.createtable();
```

```
                        break;
```

```
                    case 2:obj.insert();
```

```
                        break;
```

```
                    case 3:obj.fetchdata();
```

```
                        break;
```

```
                    case 4:obj.delete();
```



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**BATCH: N6**

**Subject: - Advanced JAVA Programming (304195)**

**Assignment No:4**

**Roll No: 32282**

**Date:**

```
        break;
        case 5:obj.update();
        break;
        case 6:obj.search();
        break;
        case 7:obj.closeconnection();
        break;
        default:System.out.println("Enter the correct option");
        break;
    }
    System.out.println("Do you want to continue then press 1 otherwise 0");
    ch=in.nextInt();
    }while(ch!=0);
    }
    catch(Exception E)
    {
        System.out.println(E);
    }
}

void getconnection()//4th Task
{
    String driver="com.mysql.jdbc.Driver";//6th task
    String url="jdbc:mysql://localhost/java";
    String username="root"; //Enter your account username
    String password="root"; //Enter your account password
    try //9th task
    {
        Class.forName(driver);//5th Task
        con=DriverManager.getConnection(url,username,password); //8th task
        System.out.println("Connection established successfully");
    }
    catch(Exception E)
    {
        System.out.println(E);
    }
}

void createtable() //11th Task
{
    try
```



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**BATCH: N6**

**Subject: - Advanced JAVA Programming (304195)**

**Assignment No:4**

**Roll No: 32282**

**Date:**

```
{
    String query="create table student(rollno int,name varchar(10),sub varchar(10),marks
int,primary key(rollno))";
    PreparedStatement st=con.prepareStatement(query);
    int i=st.executeUpdate();
    System.out.println("Table Created successfully"+i);
}

catch(Exception E)
{
    System.out.println(E);
    System.out.println("Select the next operation");
}
}

void insert()throws SQLException //12th task
{
    data.get_data();
    String query="insert into student2 values(?,?,?,?)";
    PreparedStatement st=con.prepareStatement(query);
    st.setInt(1, data.getrollno());
    st.setString(2, data.getname());
    st.setString(3, data.getsub());
    st.setInt(4, data.getmarks());
    int i=st.executeUpdate();
    System.out.println("No of rows affected"+i);
}

void fetchdata()throws SQLException //16th Task
{
    String query="select * from student2";
    PreparedStatement st= con.prepareStatement(query);
    ResultSet rs=st.executeQuery();
    System.out.println("Rollno" +"\t"+"Std_name"+" \t"+"Sub_name"+" \t"+"Marks");
    while(rs.next())
    {
        System.out.println(rs.getInt(1)+"\t"+rs.getString(2)+"\t    "+rs.getString(3)+"\t
"+rs.getInt(4));
    }
}

void update()throws SQLException //17th Task
{
    int rollno,marks;
    Scanner in=new Scanner(System.in);
    System.out.println("Enter the rollno to updated");
}
```





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**BATCH: N6**

**Subject: - Advanced JAVA Programming (304195)**

**Assignment No:4**

**Roll No: 32282**

**Date:**

```
rollno=in.nextInt();
PreparedStatement st=con.prepareStatement("update student2 set marks=? where
rollno=?");
System.out.println("Enter the marks to updated");
marks=in.nextInt();
st.setInt(1, marks);
st.setInt(2, rollno);
st.executeUpdate();
}
void search()throws SQLException//18th Task
{
    int rollno;
    Scanner in=new Scanner(System.in);
    System.out.println("Enter the rollno to be search");
    rollno=in.nextInt();
    PreparedStatement st=con.prepareStatement("select *from student2 where rollno=?");
    st.setInt(1, rollno);
    ResultSet rs=st.executeQuery();
    System.out.println("Rollno" +"\t"+
"Student_name"+ "\t"+"Subject_name"+ "\t"+"Marks");
    while(rs.next())
    {
        System.out.println(rs.getInt(1)+"\t"+rs.getString(2)+"\t    "+rs.getString(3)+"\t
"+rs.getInt(4));
    }
}
void delete()throws SQLException//19th Task
{
    int rollno;
    Scanner in=new Scanner(System.in);
    System.out.println("Enter the rollno to be search");
    rollno=in.nextInt();
    PreparedStatement st=con.prepareStatement("delete from student2 where rollno=?");
    st.setInt(1, rollno);
    st.executeUpdate();
}
void closeconnection()throws SQLException //20th Task
{
    con.close();
    System.out.println("Closed database connection");
}
}
```



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**Subject: - Advanced JAVA Programming (304195)**

**Assignment No:4**

**Roll No: 32282**

**Date:**

```
class Base //13th Task
{
    int rollno;
    String name;

    public void get_data()
    {
        Scanner input=new Scanner(System.in);
        System.out.println("Enter the rollno and name of the student");
        rollno=input.nextInt();
        name=input.next();
    }
    public int retrollno()
    {
        return rollno;
    }
    public String retname()
    {
        return name;
    }
}

class Derived extends Base //14th Task
{
    int marks;
    String sub;

    public void get_data()
    {
        Scanner in=new Scanner(System.in);
        super.get_data();
        System.out.println("Enter the sub name and marks");
        sub=in.next();
        marks=in.nextInt();
    }
    public String retsub()
    {
        return sub;
    }
    public int retmarks()
    {
        return marks;
    }
}
```



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**Subject: - Advanced JAVA Programming (304195)**

**Assignment No:4**

**Roll No: 32282**

**Date:**

Loading class `com.mysql.jdbc.Driver'. This is deprecated. The n

Connection established successfully

Select the operation

- 1.Create the table
- 2.Insert the data
- 3.Fetch Data
- 4.Delete Record
- 5.Update Record
- 6.Search Record
- 7.Close Connection

1

Table Created successfully0

Do you want to continue then press 1 otherwise 0

1

Select the operation

- 1.Create the table
- 2.Insert the data
- 3.Fetch Data
- 4.Delete Record
- 5.Update Record
- 6.Search Record
- 7.Close Connection

2

Enter the rollno and name of the student

32282

Yash

Enter the sub name and marks

AJP

82

No of rows affected1

Do you want to continue then press 1 otherwise 0

1

Select the operation

- 1.Create the table
- 2.Insert the data
- 3.Fetch Data
- 4.Delete Record
- 5.Update Record
- 6.Search Record
- 7.Close Connection

3

Rollno	Std_name	Sub_name	Marks
32282	Yash	AJP	82



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**Department of Electronics & Telecommunication Engineering (E&TE)**

**ASSESSMENT YEAR: 2022-2023**

**CLASS: TE**

**BATCH: N6**

**Subject: - Advanced JAVA Programming (304195)**

**Assignment No:4**

**Roll No: 32282**

**Date:**

Do you want to continue then press 1 otherwise 0

1

Select the operation

1.Create the table

2.Insert the data

3.Fetch Data

4.Delete Record

5.Update Record

6.Search Record

7.Close Connection

6

Enter the rollno to be search

32282

Rollno	Student_name	Subject_name	Marks
32282	Yash	AJP	82

Do you want to continue then press 1 otherwise 0

1

Select the operation

1.Create the table

2.Insert the data

3.Fetch Data

4.Delete Record

5.Update Record

6.Search Record

7.Close Connection

5

Enter the rollno to updated

32282

Enter the marks to updated

32

Do you want to continue then press 1 otherwise 0

1

Select the operation

1.Create the table

2.Insert the data

3.Fetch Data

4.Delete Record

5.Update Record

6.Search Record

7.Close Connection

3

Rollno	Std_name	Sub_name	Marks
32282	Yash	AJP	32

Do you want to continue then press 1 otherwise 0

1



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**BATCH: N6**

**Subject: - Advanced JAVA Programming (304195)**

**Assignment No:4**

**Roll No: 32282**

**Date:**

Select the operation

- 1.Create the table
- 2.Insert the data
- 3.Fetch Data
- 4.Delete Record
- 5.Update Record
- 6.Search Record
- 7.Close Connection

4

Enter the rollno to be search

32282

Do you want to continue then press 1 otherwise 0

1

Select the operation

- 1.Create the table
- 2.Insert the data
- 3.Fetch Data
- 4.Delete Record
- 5.Update Record
- 6.Search Record
- 7.Close Connection

3

Rollno Std\_name Sub\_name Marks

Do you want to continue then press 1 otherwise 0

1

Select the operation

- 1.Create the table
- 2.Insert the data
- 3.Fetch Data
- 4.Delete Record
- 5.Update Record
- 6.Search Record
- 7.Close Connection

7

Closed database connection

Do you want to continue then press 1 otherwise 0

0



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**BATCH: N6**

**Subject: - Advanced JAVA Programming (304195)**

**Assignment No:4**

**Roll No: 32282**

**Date:**

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

```
mysql> show databases;
```

```
+-----+
| Database |
+-----+
| information_schema |
| java |
| mysql |
| performance_schema |
| sys |
+-----+
```

5 rows in set (0.00 sec)

```
mysql> use java;
```

Reading table information for completion of table and column names  
You can turn off this feature to get a quicker startup with -A

Database changed

```
mysql> show tables;
```

```
+-----+
| Tables_in_java |
+-----+
| student |
| student_info |
+-----+
```

2 rows in set (0.00 sec)

```
mysql> select *from student;
```

```
+-----+-----+-----+-----+
| rollno | name | sub | marks |
+-----+-----+-----+-----+
| 32282 | Yash | AJP | 82 |
+-----+-----+-----+-----+
```

1 row in set (0.00 sec)

```
mysql> select *from student;
```

```
+-----+-----+-----+-----+
| rollno | name | sub | marks |
+-----+-----+-----+-----+
| 32282 | Yash | AJP | 32 |
+-----+-----+-----+-----+
```

1 row in set (0.00 sec)

```
mysql> select *from student;
```

Empty set (0.00 sec)

```
mysql> exit;
```

Bye

yash@ubuntu:~\$



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**BATCH:-N6**

**SUBJECT: Advanced JAVA Programming**

**Assignment No:5**

**Roll No: 32282**

**Date:**

**Programmer Name: Yash Mukesh Rupchandani**

**Batch: N6**

**Problem Statement:** Develop an RMI application which accepts a string or a number and checks that a string or number is palindrome or not.

## **Code:**

### **PallindromeI.java**

```
import java.rmi.Remote;  
import java.rmi.RemoteException;  
  
public interface PallindromeI extends Remote  
{  
    public void pallindromecheck()throws RemoteException;  
}
```

### **PallindromeC.java**

```
import java.rmi.RemoteException;  
import java.rmi.server.UnicastRemoteObject;  
import java.util.*;  
  
public class PallindromeC extends UnicastRemoteObject implements PallindromeI {  
  
    Scanner sc=new Scanner(System.in);  
    public PallindromeC() throws RemoteException {  
        super();  
    }  
  
    public void pallindromecheck() throws RemoteException {  
  
        String s;  
        System.out.println("Enter the String");  
        s=sc.next();  
        int n=s.length();
```



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**BATCH:-N6**

**SUBJECT: Advanced JAVA Programming**

**Assignment No:5**

**Roll No: 32282**

**Date:**

```
int flag=0;
for(int i=0;i<n/2;i++)
{
    if(s.charAt(i)!=s.charAt(n-i-1))
    {
        flag=1;
        break;
    }
}
if(flag==1)
{
    System.out.println("Not a Palindrome");
}
else
{
    System.out.println("Given string is a Palindrome");
}
}
```

### **Server.java**

```
import java.rmi.*;
import java.rmi.registry.LocateRegistry;
import java.rmi.registry.Registry;
public class Server {

    public static void main(String[] args) throws Exception
    {
        Registry registry=LocateRegistry.createRegistry(7000);
        PallindromeC obj=new PallindromeC();
        registry.bind("PALLINDROME", obj);
        System.out.println("Server Started");
    }
}
```



**Client.java**

```
import java.rmi.Naming;
import java.rmi.*;
public class Client {

    public static void main(String[] args) throws Exception {
        PallindromeI obj=(PallindromeI)
        Naming.lookup("rmi://localhost:7000/PALLINDROME");
        obj.pallindromecheck();
    }
}
```

**Output:**

```
Server (1) [Java Application] C:\Program Files\Java\jdk-18.0.2\
Server Started
Enter the String
abbabba
Given string is a Palindrome
Enter the String
sdfdfs
Not a Palindrome
Enter the String
1235321
Given string is a Palindrome
Enter the String
4328324
Not a Palindrome
Enter the String
wasdsaw
Given string is a Palindrome
Enter the String
rust232tsur
Given string is a Palindrome
```



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BATCH:-N6

**SUBJECT: Advanced JAVA Programming**

Assignment No:6

Roll No: 32282

Date: 2/5/23

**Programmer Name: Yash Mukesh Rupchandani**

**Batch: N6**

**Problem Statement:** Write a program to demonstrate the use of InetAddress class and its Factory Methods.

## Code:

```
import java.net.InetAddress;
import java.net.UnknownHostException;
public class Main
{
    public static void main(String[] args) throws UnknownHostException
    {

// 1) public static InetAddress getLocalHost() throws UnknownHostException
InetAddress ip1 = InetAddress.getLocalHost();
System.out.println("1. Address of local host:=" + ip1);

// 2) public static InetAddress getByName() throws UnknownHostException
InetAddress ip2 = InetAddress.getByName("www.pict.edu");
System.out.println("2. Address of string host:=" + ip2);

// 3) public static InetAddress getByAddress(byte[] address) throws UnknownHostException
byte[] ipaddress = {10, 10, 12, 80};
InetAddress ip3 = InetAddress.getByAddress(ipaddress);
System.out.println("3. Host name for ip address:=" + ip3);

// 4) public static InetAddress [] getAllByName(String host) throws UnknownHostException
InetAddress[] ip4 = InetAddress.getAllByName("www.pict.edu");
for (InetAddress inetAddress : ip4)
{
    System.out.println("4. address of url=" + inetAddress);
}

// 5) public static InetAddress getByAddress(String host,byte []address)throws
UnknownHostException
InetAddress ip5 = InetAddress.getByAddress("pict.edu", ipaddress);
System.out.println("5. Inetaddress of host with ip address and hostname=" +
ip5);
```



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**Roll No: 32282**

**Date: 2/5/23**

//Instance Method

```
System.out.println("6. Host name of inetaddress=" + ip2.getHostName());
System.out.println("7. Address of host hold by inetaddress object=" + ip2.getHostAddress());
System.out.println("8. Address equals or not=" + ip2.equals(ip1));
System.out.println("9. to sting convert="+ ip2);
System.out.println("10. it is multicast address : "+ip2.isMulticastAddress());
}
```

## Output:

```
<terminated> Main (2) [Java Application] C:\Program Files\Java\jdk-18.0.2\bin\javaw.exe (May 5, 2023, 1:12:49 PM - 1:12:51 PM)
1.Address of local host:=DESKTOP-A2PF4S6/10.10.15.86
2.Address of string host:=www.pict.edu/172.67.189.60
3.Host name for ip address:=/10.10.13.38
4.address of url=www.pict.edu/172.67.189.60
4.address of url=www.pict.edu/104.21.9.117
5.Inetaddress of host with ip address and hostname=pict.edu/10.10.13.38
6.Host name of inetaddress=www.pict.edu
7.Address of host hold by inetaddress object=172.67.189.60
8.Address equals or not=false
9.to sting convert=www.pict.edu/172.67.189.60
10. it is multicast address or not=false
```



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**SUBJECT: Advanced JAVA Programming**

Assignment No:7

Roll No: 32282

Date: 18/4/23

**Programmer Name: Yash Mukesh Rupchandani**

**Batch: N6**

**Problem Statement:** A.Design a Servlet (procedure for Client side) to display the username and password accepted from the client.

B. Design a Servlet (procedure for Server side) to display the username and password accepted from the client.

**Code:**

## **Index.html**

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Login Page</title>
</head>
<body>
<form action="LoginServlet" >
Enter User ID<input type="text" name="USERNAME"><br>
Enter Password<input type="password" name="PASSWORD"><br>
<input type="reset">
<input type="submit" value=" LOGIN ">
</form>
</body>
</html>
```

## **Success.html**

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
Welcome<br>
Login successful
```



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**Assignment No:7**

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</body>

</html>

## LoginServlet.java

```
import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
import java.io.*;
import java.io.PrintWriter;
```

```
public class LoginServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;
```

```
    public LoginServlet() {
        super();
    }
```

```
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
        // TODO Auto-generated method stub
```

```
        PrintWriter out = response.getWriter();
        out.println("<html><head><title>Servlet LoginServlet</title></head>");
```

```
        String uname = request.getParameter("USERNAME");
        String upass = request.getParameter("PASSWORD");
```

```
        if(uname.equals("Root") &&upass.equals("abc@123"))
        {
            response.sendRedirect("Success.html");
        }
        else
        {
            out.println("<body bgcolor=violet >");
            out.println("<h1> LOGIN FAILED! </h1>");
```



```
        out.println("<font color=red size=12>Incorrect User Name or Password....Try  
Again!</font>");  
        RequestDispatcher rd = request.getRequestDispatcher("index.html");  
        rd.include(request, response);  
    }  
    out.println("</body></html>");  
  
    }  
}
```

## Web.xml

```
<?xml version="1.0" encoding="UTF-8"?>  
<web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
xmlns="https://jakarta.ee/xml/ns/jakartaee" xmlns:web="http://xmlns.jcp.org/xml/ns/javaee"  
xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee  
https://jakarta.ee/xml/ns/jakartaee/web-app_5_0.xsd http://xmlns.jcp.org/xml/ns/javaee  
http://java.sun.com/xml/ns/javaee/web-app_2_5.xsd" id="WebApp_ID" version="5.0">  
    <display-name>Exp7</display-name>  
    <welcome-file-list>  
        <welcome-file>index.html</welcome-file>  
        <welcome-file>index.jsp</welcome-file>  
        <welcome-file>index.htm</welcome-file>  
        <welcome-file>default.html</welcome-file>  
        <welcome-file>default.jsp</welcome-file>  
        <welcome-file>default.htm</welcome-file>  
    </welcome-file-list>  
    <servlet>  
        <description></description>  
        <display-name>LoginServlet</display-name>  
        <servlet-name>LoginServlet</servlet-name>  
        <servlet-class>mypack.LoginServlet</servlet-class>  
    </servlet>  
    <servlet-mapping>  
        <servlet-name>LoginServlet</servlet-name>  
        <url-pattern>/LoginServlet</url-pattern>  
    </servlet-mapping>  
</web-app>
```



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**SUBJECT: Advanced JAVA Programming**

Assignment No:7

Roll No: 32282

Date: 18/4/23

## Output:

Login Page × +

← → ↻ ⓘ localhost:8080/Exp7/index.html

Enter User ID

Enter Password

Insert title here × +

← → ↻ ⓘ localhost:8080/Exp7/Success.html

Welcome  
Login successful

Login Page × +

← → ↻ ⓘ localhost:8080/Exp7/index.html

Enter User ID

Enter Password

Servlet LoginServlet × +

← → ↻ ⓘ localhost:8080/Exp7/LoginServlet?USERNAME=admin&PASSWORD=abc%401

**LOGIN FAILED!**

**Incorrect User Name or Password....Try Again!**

Enter User ID

Enter Password



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**SUBJECT: Advanced JAVA Programming**

**Assignment No:8**

**Roll No: 32282**

**Date:**

**Programmer Name: Yash Mukesh Rupchandani**

**Batch: N6**

**Problem Statement:** With suitable example to develop your remote interface, implement your RMI server, implement application that create your server, also develop security policy file.

## **Code:**

### **PrintI.java**

```
import java.rmi.Remote;  
import java.rmi.RemoteException;  
  
public interface PrintI extends Remote  
{  
    public void printmsg() throws RemoteException;  
    public void checkPass() throws RemoteException;  
}
```

### **PrintC.java**

```
import java.rmi.RemoteException;  
import java.rmi.server.UnicastRemoteObject;  
import java.util.*;  
  
public class PrintC extends UnicastRemoteObject implements PrintI {  
  
    Scanner sc=new Scanner(System.in);  
    public PrintC() throws RemoteException {  
        super();  
    }  
  
    public void checkPass() throws RemoteException {  
        String pass;  
        String ref="123";  
        System.out.println("Enter the password");  
    }  
}
```





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**SUBJECT: Advanced JAVA Programming**

**Assignment No:8**

**Roll No: 32282**

**Date:**

```
pass=sc.next();
if(pass.equals(ref))
{
    System.out.println("Welcome");
}
else
{
    System.out.println("Please Enter valid password");
}
}
```

```
public void printmsg() throws RemoteException
{
    System.out.println("Hello Students");
}

}
```

### **Server.java**

```
import java.rmi.*;
import java.rmi.registry.LocateRegistry;
import java.rmi.registry.Registry;
public class Server {

    public static void main(String[] args) throws Exception
    {
        Registry registry=LocateRegistry.createRegistry(7000);
        PrintC obj1=new PrintC();
        registry.bind("SHOWMSG", obj1);
        System.out.println("Server Started");
    }

}
```

### **Client.java**



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**SUBJECT: Advanced JAVA Programming**

**Assignment No:8**

**Roll No: 32282**

**Date:**

```
import java.rmi.Naming;  
import java.rmi.*;  
public class Client {  
  
    public static void main(String[] args) throws Exception {  
        PrintI obj1=(PrintI) Naming.lookup("rmi://localhost:7000/SHOWMSG");  
        obj1.checkPass();  
        obj1.printmsg();  
    }  
}
```

### Output:

```
Server (2) [Java Application] C:\Program Files\Java\jdk-9.0.4\bin\java.exe  
Server Started  
Enter the password  
123  
Welcome  
Hello Students
```

```
Server (2) [Java Application] C:\Program Files\Java\jdk-9.0.4\bin\java.exe  
Server Started  
Enter the password  
56234  
Please Enter valid password  
Hello Students
```



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**SUBJECT: Advanced JAVA Programming**

**Assignment No:9**

**Roll No: 32282**

**Date: 18/4/23**

**Programmer Name: Yash Mukesh Rupchandani**

**Batch: N6**

**Problem Statement:** Design a simple JSP page to display a simple message.

**Code:**

## **Index.jsp**

```
<% @ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"% >
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title> My First JSP Program</title>
</head>
<body>
<font size="3" face = "Verdana" color = "red">
<i><b>
Hello world!
this is my First JSP Program.
</body>
</html>
```

## **Web.xml**

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="https://jakarta.ee/xml/ns/jakartaee" xmlns:web="http://xmlns.jcp.org/xml/ns/javaee"
xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee
https://jakarta.ee/xml/ns/jakartaee/web-app_5_0.xsd" id="WebApp_ID" version="5.0">
  <display-name>Exp9</display-name>
  <welcome-file-list>
    <welcome-file>index.html</welcome-file>
    <welcome-file>index.jsp</welcome-file>
    <welcome-file>index.htm</welcome-file>
```



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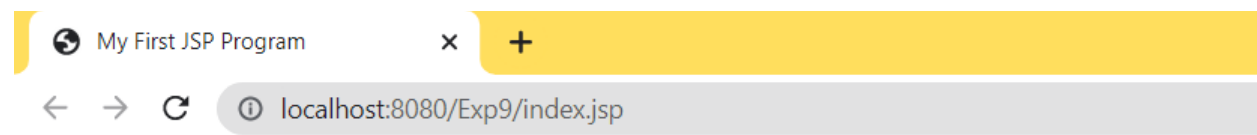
**Assignment No:9**

**Roll No: 32282**

**Date: 18/4/23**

```
<welcome-file>default.html</welcome-file>
<welcome-file>default.jsp</welcome-file>
<welcome-file>default.htm</welcome-file>
</welcome-file-list>
</web-app>
```

## Output:



***Hello world! this is my First JSP Program.***



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**SUBJECT: Advanced JAVA Programming**

**Assignment No:10**

**Roll No: 32282**

**Date: 29/4/23**

**Programmer Name: Yash Mukesh Rupchandani**

**Batch: N6**

**Problem Statement:** Create a simple Calculator application using Servlet.

**Code:**

## **Index.html**

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Calculator</title>
</head>
<body>

<form action="CalculatorServlet" >
Enter First Number <input type="text" name="txtN1"><br>
Enter Second Number <input type="text" name="txtN2"><br>
Select an Operation<input type="radio" name="opr" value="+">
ADDITION <input type="radio" name="opr" value="-">
SUBTRACTION <input type="radio" name="opr" value="*">
MULTIPLY <input type="radio" name="opr" value="/">
DIVIDE <br><input type="reset">
<input type="submit" value="Calculate" >
</form>

</body>
</html>
```

## **CalculatorServlet.java**

```
import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
import java.io.IOException;
```



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**SUBJECT: Advanced JAVA Programming**

**Assignment No:10**

**Roll No: 32282**

**Date: 29/4/23**

```
import java.io.*;

public class CalculatorServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;

    public CalculatorServlet() {
        super()
    }

    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
    ServletException, IOException {
        response.getWriter().append("Served at: ").append(request.getContextPath());

        response.setContentType("text/html;charset=UTF-8");
        PrintWriter out = response.getWriter();

        out.println("<html><head><title>ServletCalculatorServlet</title></head><body>");

        double n1 = Double.parseDouble(request.getParameter("txtN1"));
        double n2 = Double.parseDouble(request.getParameter("txtN2"));
        double result =0;

        String opr=request.getParameter("opr");

        if(opr.equals("+"))
            result=n1+n2;

        if(opr.equals("*"))
            result=n1*n2;

        if(opr.equals("-"))
            result=n1-n2;

        if(opr.equals("/"))
            result=n1/n2;

        out.println("<h1> Result = "+result);
        out.println("</body></html>");

    }
}
```



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**BATCH:-N6**

**SUBJECT: Advanced JAVA Programming**

**Assignment No:10**

**Roll No: 32282**

**Date: 29/4/23**

## Web.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns="https://jakarta.ee/xml/ns/jakartaee" xmlns:web="http://xmlns.jcp.org/xml/ns/javaee"
xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee
https://jakarta.ee/xml/ns/jakartaee/web-app_5_0.xsd" id="WebApp_ID" version="5.0">
  <display-name>Exp10</display-name>
  <welcome-file-list>
    <welcome-file>index.html</welcome-file>
    <welcome-file>index.jsp</welcome-file>
    <welcome-file>index.htm</welcome-file>
    <welcome-file>default.html</welcome-file>
    <welcome-file>default.jsp</welcome-file>
    <welcome-file>default.htm</welcome-file>
  </welcome-file-list>
  <servlet>
    <description></description>
    <display-name>CalculatorServlet</display-name>
    <servlet-name>CalculatorServlet</servlet-name>
    <servlet-class>mypack.CalculatorServlet</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>CalculatorServlet</servlet-name>
    <url-pattern>/CalculatorServlet</url-pattern>
  </servlet-mapping>
</web-app>
```



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## Output:

Calculator × +

← → ↻ ⓘ localhost:8080/Exp10/index.html

Enter First Number

Enter Second Number

Select an Operation ☒ ADDITION ☐ SUBTRACTION ☐ MULTIPLY ☐ DIVIDE

ServletCalculatorServlet × +

← → ↻ ⓘ localhost:8080/Exp10/CalculatorServlet?txtN1=55&txtN2=33&opr=%2B

Served at: /Exp10

## Result = 88.0

Calculator × +

← → ↻ ⓘ localhost:8080/Exp10/index.html

Enter First Number

Enter Second Number

Select an Operation ☐ ADDITION ☒ SUBTRACTION ☐ MULTIPLY ☐ DIVIDE

ServletCalculatorServlet × +

← → ↻ ⓘ localhost:8080/Exp10/CalculatorServlet?txtN1=55&txtN2=33&opr=-

Served at: /Exp10

## Result = 22.0





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Calculator

x

+

localhost:8080/Exp10/index.html

Enter First Number 55

Enter Second Number 33

Select an Operation ☐ ADDITION ☐ SUBTRACTION ☒ MULTIPLY ☐ DIVIDE

Reset

Calculate

ServletCalculatorServlet

x

+

localhost:8080/Exp10/CalculatorServlet?txtN1=55&txtN2=33&opr=\*

Served at: /Exp10

**Result = 1815.0**

Calculator

x

+

localhost:8080/Exp10/index.html

Enter First Number 55

Enter Second Number 33

Select an Operation ☐ ADDITION ☐ SUBTRACTION ☐ MULTIPLY ☒ DIVIDE

Reset

Calculate

ServletCalculatorServlet

x

+

localhost:8080/Exp10/CalculatorServlet?txtN1=55&txtN2=33&opr=%2F

Served at: /Exp10

**Result = 1.6666666666666667**



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**SUBJECT: Advanced JAVA Programming**

**Assignment No:**

**Roll No: 32282**

**Date:**

**Programmer Name: Yash Mukesh Rupchandani**

**Batch: N6**

**Problem Statement:** Write a program to demonstrate MenuBar add Menu and MenuItems Components to it on a frame using AWT. Display the MenuItem Selected in a separate window.

## **Code:**

```
import java.awt.*;
import java.awt.event.*;
public class Menubar_Example extends WindowAdapter implements ActionListener {
```

```
    Frame f;
    Label l;
    MenuBar mb;
    Menu m1,m2,m3;
    MenuItem i1,i2,i3,i4,i5,i6,i7,i8,i9,i10,i11,i12 ;
    Font F2 = new Font("Times New Roman",Font.BOLD,15);
```

```
    Menubar_Example(){
        f = new Frame();
        f.setVisible(true);
        f.setSize(400,400);
        f.setLayout(null);
        f.setTitle("Menubar_Example");
        init();
        add_Component();
    }
```

```
    public void init() {
        mb = new MenuBar();
        l = new Label();
        m1 = new Menu("File");
        m2 = new Menu("Edit");
        m3 = new Menu("Files");
        i1 = new MenuItem("New");
        i2 = new MenuItem("Open");
        i3 = new MenuItem("Save");
        i4 = new MenuItem("Exit");
        i5 = new MenuItem("Cut");
```



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```
i6 = new MenuItem("Copy");
i7 = new MenuItem("Paste");
i8 = new MenuItem("-----");
i9 = new MenuItem("First");
i10 = new MenuItem("Second");
i11 = new MenuItem("Third");
i12 = new MenuItem("Settings");

}

public void add_Component() {
    f.setMenuBar(mb);
    m1.add(i1);
    m1.add(i2);
    m1.add(i3);
    m1.add(i4);
    mb.add(m1);

    m2.add(i5);
    m2.add(i6);
    m2.add(i7);
    m2.add(i8);

    m3.add(i9);
    m3.add(i10);
    m3.add(i11);
    m2.add(m3);

    m2.add(i12);
    mb.add(m2);

    i1.addActionListener(this);
    i2.addActionListener(this);
    i3.addActionListener(this);
    i4.addActionListener(this);
    i5.addActionListener(this);
    i6.addActionListener(this);
    i7.addActionListener(this);
    i8.addActionListener(this);
    i9.addActionListener(this);
    i10.addActionListener(this);
    i11.addActionListener(this);
    i12.addActionListener(this);
```



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```
f.addWindowListener(this);

l.setBounds(50, 350, 300, 20);
l.setFont(F2);
f.add(l);

}

public void windowClosing(WindowEvent e) {
    f.dispose();
}

public void actionPerformed(ActionEvent e) {

    String s = e.getActionCommand();
    l.setText("Current MenuItem Selected:- " + s);
    Dialog d=new Dialog(f,"New Message Dialog");
    d.setSize(300,200);
    d.setVisible(true);
    d.add(l);
    d.addWindowListener(this);
}

public static void main(String[] args) {
    // TODO Auto-generated method stub
    new Menubar_Example();
}

}
```



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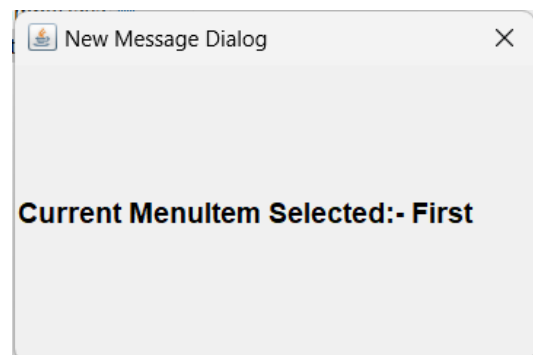
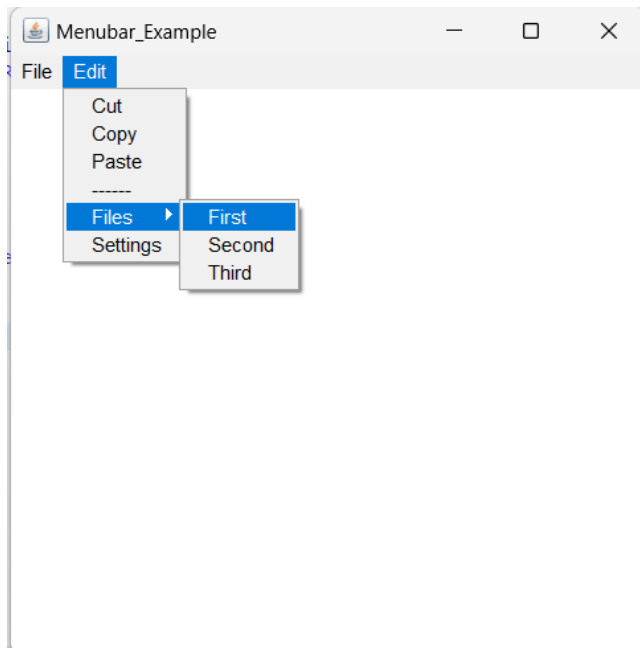
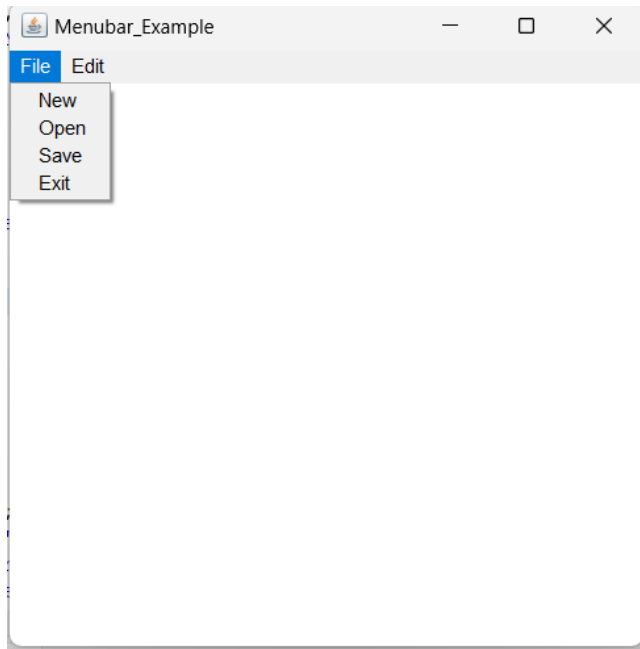
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## Output:





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**SUBJECT: Advanced JAVA Programming**

**Assignment No:**

**Roll No: 32282**

**Date:**

**Programmer Name: Yash Mukesh Rupchandani**

**Batch: N6**

**Problem Statement:** Develop a GUI which accepts the Two Numbers then Performs Basic Mathematical Operations and Display the result.

## **Code:**

```
import java.awt.*;
import java.awt.event.*;

public class Calculator extends WindowAdapter implements ActionListener
{
    Frame f;
    TextField t1,t2,t3;
    Label l1,l2,l3;
    Button b1,b2,b3,b4,b5;
    Font font;

    Calculator()
    {
        f=new Frame();
        f.setSize(500,300);
        f.setVisible(true);
        f.setLayout(null);
        f.setTitle("Calculator");
        init();
        add_component();
    }

    public void init()
    {
        font=new Font("Arial",Font.BOLD,15);
        l1=new Label("Input 1");
        l2=new Label("Input 2");
        l3=new Label("Result");
        t1=new TextField(20);
        t2=new TextField(20);
        t3=new TextField(20);
        b1=new Button("+");
        b2=new Button("-");
```



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```
b3=new Button("*");
b4=new Button("/");
b5=new Button("Reset");

}
public void add_component()
{
    l1.setBounds(30,40,50,50);
    l1.setFont(font);
    f.add(l1);
    l2.setBounds(30,80,50,50);
    l2.setFont(font);
    f.add(l2);
    l3.setBounds(250,40,50,50);
    l3.setFont(font);
    f.add(l3);
    t1.setBounds(100,40,100,40);
    f.add(t1);
    t2.setBounds(100,90,100,40);
    f.add(t2);
    t3.setBounds(320,40,100,40);
    f.add(t3);
    b1.setBounds(30,150,50,50);
    f.add(b1);
    b2.setBounds(100,150,50,50);
    f.add(b2);
    b3.setBounds(170,150,50,50);
    f.add(b3);
    b4.setBounds(240,150,50,50);
    f.add(b4);
    b5.setBounds(310,150,100,50);
    f.add(b5);

    f.addWindowListener(this);
    b1.addActionListener(this);
    b2.addActionListener(this);
    b3.addActionListener(this);
    b4.addActionListener(this);
    b5.addActionListener(this);
}
```



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```
public void windowClosing(WindowEvent e)
{
    f.dispose();
}
```

```
public void actionPerformed(ActionEvent e)
{
```

```
    String text1=t1.getText();
    String text2=t2.getText();
```

```
    Integer num1=Integer.parseInt(text1);
    Integer num2=Integer.parseInt(text2);
    Integer answer=0;
    Object b=e.getSource();
```

```
    if(b==b1)
        answer=num1+num2;
    else if(b==b2)
        answer=num1-num2;
    else if(b==b3)
        answer=num1*num2;
    else if(b==b4)
        answer=num1/num2;
```

```
    else
    {
        t1.setText("");
        t2.setText("");
    }
    t3.setText(answer.toString());
```

```
}
```

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

```
{
    new Calculator();
```

```
}
```

```
}
```





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## Output:

Calculator window showing the initial state. Input 1 and Input 2 are empty. The Result field is empty. The buttons +, -, \*, /, and Reset are visible.

Calculator window showing the result of multiplication. Input 1 is 50, Input 2 is 90, and the Result is 4500. The buttons +, -, \*, /, and Reset are visible.

Calculator window showing the result of addition. Input 1 is 50, Input 2 is 90, and the Result is 140. The buttons +, -, \*, /, and Reset are visible.

Calculator window showing the result of subtraction. Input 1 is 50, Input 2 is 90, and the Result is -40. The buttons +, -, \*, /, and Reset are visible.