

### MOBILE APPLICATION DEVELOPMENT LAB

#### EXP 1:

Write a J2ME program to show how to change the font size and colour.

```
import java.io.*;
import java.lang.*;
import javax.microedition.io.*;
import javax.microedition.rms.*;
import javax.microedition.lcdui.*;
import javax.microedition.midlet.*;

public class FontSize extends MIDlet {
    public static final boolean COLOR = false;
    public static final boolean DEBUG = false;
    private Display display = null;
    private FontCanvas fontCanvas = null;
    private boolean painting = false;

    public FontSize() {
        display = Display.getDisplay(this);
        fontCanvas = new FontCanvas(this);
    }

    public void startApp() throws MIDletStateChangeException
    {
        display.setCurrent(fontCanvas);
    }

    public void pauseApp() {}

    protected void destroyApp(boolean unconditional) throws
    MIDletStateChangeException {}

    class FontCanvas extends Canvas {
        private FontSize parent = null;
        private int width = getWidth();
        private int height = getHeight();
```

```

public FontCanvas(FontSize parent) {
    this.parent = parent;
}

public void paint(Graphics g) {
    g.setColor(255, 128, 0);
    g.fillRect(0, 0, width, height);
    Font font1 = Font.getFont(Font.FACE_SYSTEM,
Font.STYLE_PLAIN, Font.SIZE_LARGE);
    Font font2 = Font.getFont(Font.FACE_SYSTEM,
Font.STYLE_PLAIN, Font.SIZE_MEDIUM);
    Font font3 = Font.getFont(Font.FACE_SYSTEM,
Font.STYLE_PLAIN,Font.SIZE_SMALL);
    int position = 0;
    if(COLOR){
        g.setColor(255, 255, 255);
    }else{
        g.setColor(192, 192, 192);
        g.fillRect(0, position, width, font1.getHeight());
    }
    if(COLOR){
        g.setColor(255, 255, 255);
    }else{
        g.setColor(0, 0, 0);
    }
    g.setFont(font1);
    g.drawString("LARGE SIZE FONT", 0, position,
Graphics.LEFT | Graphics.TOP);

    position = position + font1.getHeight() + 10;
    g.setFont(font2);
    g.drawString("MEDIUM SIZE FONT", 0, position,
Graphics.LEFT | Graphics.TOP);
    g.setColor(0, 0, 0);
    position = position + font1.getHeight() + 10;
    g.setFont(font3);
    g.drawString("SMALL SIZE FONT", 0, position,
Graphics.LEFT | Graphics.TOP);
    position = position + font1.getHeight() + 10;
    g.drawLine(0, font3.getHeight() + position - 1, width,
font3.getHeight()+ position - 1);
    painting = false;
}
}

```

}

## OUTPUT:



## EXP 2:

Write a J2ME program which creates the following kind of menu.

\*cut,\*copy,\*paste,\*delete,\*select all,\*unselect all

```
import javax.microedition.midlet.*;  
import javax.microedition.lcdui.*;
```

```
public class MenuEvents extends MIDlet implements
CommandListener,ItemStateListener
{

    public ChoiceGroup ch;
    public ChoiceGroup ch1;
    public Form form;
    public Form form1;
    public Display display;
    public Command View;
    public Command Exit;
    public Command Back;
    public StringItem options;
    public Item item;
    public MenuEvents()
    {
        display=Display.getDisplay(this);
        form=new Form("");
        form1=new Form("Selcted Options are");
        ch=new
ChoiceGroup("Preferences",Choice.MULTIPLE);
        ch.append("cut",null);
        ch.append("copy",null);
        ch.append("paste",null);
```

```
ch.append("delete",null);
ch.setSelectedIndex(1, true);
form.append(ch);
ch1=new ChoiceGroup("",Choice.EXCLUSIVE);
ch1.append("select all",null);
ch1.append("unselect all",null);
ch1.setSelectedIndex(1, true);
form.append(ch1);
View=new Command("View",Command.OK,1);
Exit =new Command("Exit",Command.EXIT,1);
Back=new Command("Back",Command.BACK,1);
form.addCommand(View);
form.addCommand(Exit);
form1.addCommand(Back);
form.setCommandListener(this);
form1.setCommandListener(this);
form.setItemStateListener(this);
}
public void startApp()
{
    display.setCurrent(form);
}
public void pauseApp()
```

```
{  
}  
  
public void destroyApp(boolean unconditional)  
{  
}  
  
public void commandAction(Command  
command, Displayable displayable)  
{  
    if(displayable==form)  
    {  
        if(command==View)  
        {  
            boolean opt[]=new boolean[ch.size()];  
            options=new StringItem("", "");  
            String values="";  
            ch.getSelectedFlags(opt);  
            options.setText("");  
            for(int i=0;i<opt.length;i++)  
            {  
                if(opt[i])  
                {  
                    values+=ch.getString(i)+"\n";  
                }  
            }  
        }  
    }  
}
```

```
        }  
        options.setText(values);  
        form1.append(options);  
        display.setCurrent(form1);  
    }  
    else if(command==Exit)  
    {  
        destroyApp(true);  
        notifyDestroyed();  
    }  
}  
else if(displayable==form1)  
{  
    if(command==Back)  
    {  
        display.setCurrent(form);  
        options.setText("");  
    }  
}  
}  
}  
  
public void itemStateChanged(Item item)  
{
```

```
if(item==ch1)
{
    int i=0;
    int size=ch.size();
    while(i<size)
    {
        if(ch1.getSelectedIndex()==0)
            ch.setSelectedIndex(i, true);
        else
            ch.setSelectedIndex(i, false);
        i++;
    }
}
}
```

**OUTPUT:**





### EXP 3:

Create a J2ME menu which has the following options(Event Handling)

Cut - can be on/off, Copy - can be on/off, Paste - can be on/off

Delete - can be on/off, Select all – put all 4 options on  
Unselect all – put all

```
import javax.microedition.midlet.*;  
import javax.microedition.lcdui.*;
```

```
public class MenuEvents extends MIDlet implements  
CommandListener,ItemStateListener {
```

```

public ChoiceGroup ch;
public ChoiceGroup ch1;
public Form form;
public Form form1;
public Display display;
public Command View;
public Command Exit;
public Command Back;
public StringItem options;
public Item item;
public MenuEvents()
{
    display=Display.getDisplay(this);
    form=new Form("");
    form1=new Form("Selcted Options are");
    ch=new ChoiceGroup("Preferences",Choice.MULTIPLE);
    ch.append("cut",null);
    ch.append("copy",null);
    ch.append("paste",null);
    ch.append("delete",null);
    ch.setSelectedIndex(1, true);
    form.append(ch);
    ch1=new ChoiceGroup("",Choice.EXCLUSIVE);
    ch1.append("select all",null);
    ch1.append("unselect all",null);
    ch1.setSelectedIndex(1, true);
    form.append(ch1);
    View=new Command("View",Command.OK,1);
    Exit =new Command("Exit",Command.EXIT,1);
    Back=new Command("Back",Command.BACK,1);
    form.addCommand(View);
    form.addCommand(Exit);
    form1.addCommand(Back);
    form.setCommandListener(this);
    form1.setCommandListener(this);
    form.setItemStateListener(this);
}
public void startApp()
{
    display.setCurrent(form);
}
public void pauseApp() {

```

```

    }
    public void destroyApp(boolean unconditional) {
    }
    public void commandAction(Command command, Displayable
displayable)
    {
        if(displayable==form)
        {
            if(command==View)
            {
                boolean opt[]=new boolean[ch.size()];
                options=new StringItem("", "");
                String values="";
                ch.getSelectedFlags(opt);
                options.setText("");

                for(int i=0; i
                {
                    if(opt[i])
                    {
                        values+=ch.getString(i)+"\n";
                    }
                }
                options.setText(values);
                form1.append(options);

                display.setCurrent(form1);
            }
        else if(command==Exit)
        {

            destroyApp(true);
            notifyDestroyed();
        }
    }
    else if(displayable==form1)
    {
        if(command==Back)
        {
            display.setCurrent(form);
            options.setText("");
        }
    }

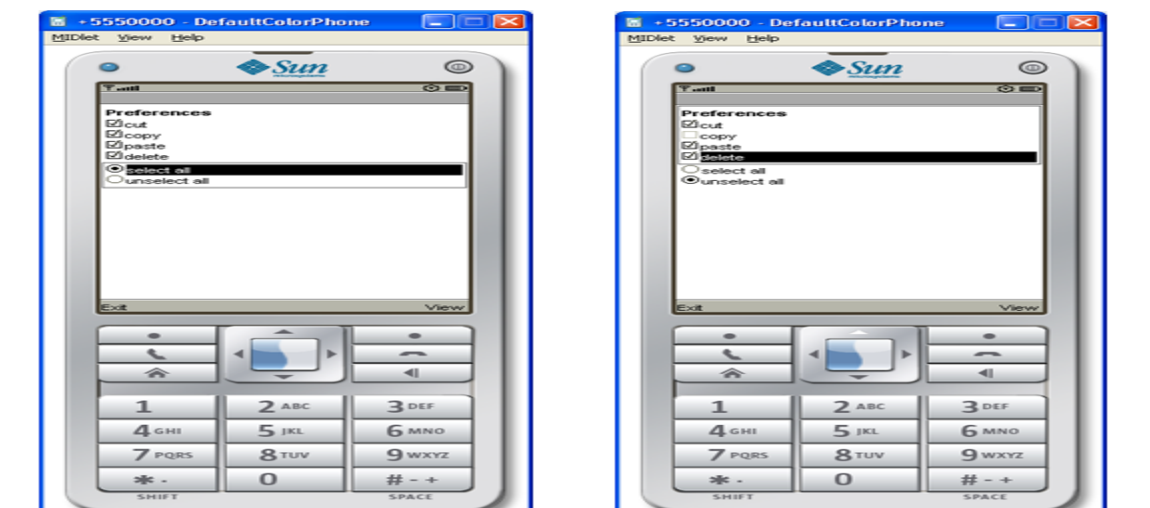
```

```

}
}
public void itemStateChanged(Item item)
{
    if(item==ch1)
    {
        int i=0;
        int size=ch.size();
        while(i
        {
            if(ch1.getSelectedIndex()==0)
            ch.setSelectedIndex(i, true);
            else
                ch.setSelectedIndex(i, false);
            i++;
        }
    }
}
}

```

## OUTPUT:



## EXP 4:

Create a MIDP application, which draws a bar graph to the display. Data values can be given at `int []` array. You can enter four data (integer) values to the input text field.

```
import javax.microedition.midlet.*;
import javax.microedition.lcdui.*;
public class BarGraph extends MIDlet implements
CommandListener{
    public Form form;
    public Command exitCommand;
    public Command OkCommand;
    public Command backCommand;
    public Displayable d;
    public Display display;
    public TextField textfield1;
    public TextField textfield2;
    public TextField textfield3;
    public TextField textfield4;
    public TextField textfield5;
    public BarGraph ()
    {
        display=Display.getDisplay(this);
        form=new Form("BarGraph");
        textfield1=new TextField("Value1:-"," ",30,TextField.ANY);
        textfield2=new TextField("Value2:-"," ",30,TextField.ANY);
        textfield3=new TextField("Value3:-"," ",30,TextField.ANY);
        textfield4=new TextField("Value4:-"," ",30,TextField.ANY);
        textfield5=new TextField("Value5:-"," ",30,TextField.ANY);
        form.append(textfield1);
        form.append(textfield2);
        form.append(textfield3);
        form.append(textfield4);
        form.append(textfield5);
        OkCommand=new Command("Ok",Command.OK,1);
        exitCommand=new Command("Exit",Command.EXIT,1);
        backCommand=new Command("Back",Command.BACK,1);
        form.addCommand(OkCommand);
        form.addCommand(exitCommand);
        form.setCommandListener(this);
    }
    public void startApp() {
```

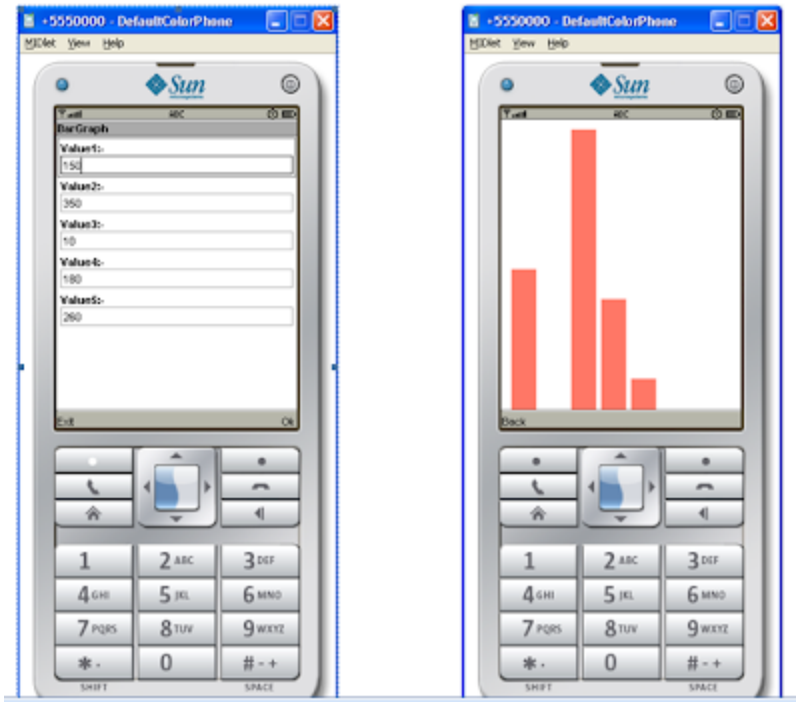
```

        display.setCurrent(form);
    }
    public void pauseApp() {
    }
    public void destroyApp(boolean unconditional) {
    }
    public void commandAction(Command
command,Displayable displayable)
    {
        if(displayable==form)
        {
            if(command==OkCommand)
            {
                int[] data=new int[5];
                data[0]=Integer.parseInt(textfield1.getString());
                data[1]=Integer.parseInt(textfield2.getString());
                data[2]=Integer.parseInt(textfield3.getString());
                data[3]=Integer.parseInt(textfield4.getString());
                data[4]=Integer.parseInt(textfield5.getString());
                d=new BarCanvas(data);
                d.addCommand(backCommand);
                d.setCommandListener(this);
                display.setCurrent(d);
            }
            else if(command==exitCommand)
                notifyDestroyed();
        }
        else if(displayable==d)
        {
            if(command==backCommand)
                display.setCurrent(form);
        }
    }
}
class BarCanvas extends Canvas{
    int[] data;
    public int x;
    public int y;

```

```
public int y1;
public int h;
public BarCanvas(int[] data)
{
    this.data=data;
    x=10;
}
public void paint(Graphics g)
{
    g.setColor(255, 255, 255);
    g.fillRect(0, 0, this.getWidth(), this.getHeight());
    g.setColor(255, 125, 100);
    int i=0;
    y1=data[0];
    h=200;
    while(i
    {
        y=data[i];
        h=200+y1-y;
        g.fillRect(x, y,25 , h);
        x+=30;
        i++;
    }
}
```

**OUTPUT:**



## EXP 5:

**Create an MIDP application which examines, that a phone number, which a user has entered is in the given format (input checking):\*Area code should be one of the following: 040, 041, 050, 0400 ,044\***

```
import javax.microedition.midlet.*;
import javax.microedition.lcdui.*;
```

```
public class InputChecking extends MIDlet implements CommandListener
{
```

```
    public Form form1;
    public TextField textfield1;
    public Command exitCommand;
    public Command okCommand;
    public StringItem st;
    public Display display;
```

```
    public InputChecking()
    {
```

```
        display=Display.getDisplay(this);
        form1=new Form("Insert the Phone number");
```



```

exitCommand=new Command("Exit",Command.EXIT,1);
okCommand=new Command("Ok",Command.OK,1);
st=new StringItem("Phone Number is ","");
textfield1=new TextField("Phone;","",30,TextField.ANY);
form1.append(textfield1);
form1.addCommand(okCommand);
form1.addCommand(exitCommand);
form1.setCommandListener(this);

}
public void startApp() {
display.setCurrent(form1);
}

public void pauseApp() {
}

public void destroyApp(boolean unconditional) {
}

public void commandAction(Command cmd,Displayable displayable)
{
if(cmd==exitCommand)
notifyDestroyed();
else if(cmd==okCommand)
{

String s=textfield1.getString();
s=s.replace(' ', '.');

int len=s.length();
int i=0;
int c=0;

String s1="";
while(i<len)
{

if(s.charAt(i)=='.')

```

```

    {

        if(c==0)
        {

            if(s1.equals("040") || s1.equals("041") || s1.equals("050") ||
s1.equals("0400") || s1.equals("044"))
            {

                c++;

                s1="";

            }
            if(c==1)
            {

                if(s1.length()-1==3)
                {
                    c++;
                    s1="";
                }

            }

        }

        s1=s1+s.charAt(i);
        i++;

    }

    if(s1.length()-1==3 || s1.length()-1==4 || s1.length()-1==5)
        c++;

    if(c==3)
        st.setText("OK");
    else
    {

        st.setText("wrong\n Phone Number Format is xxx xxx
xxxx\nArea code must be 040|050|041|0400|044");

    }

```

```

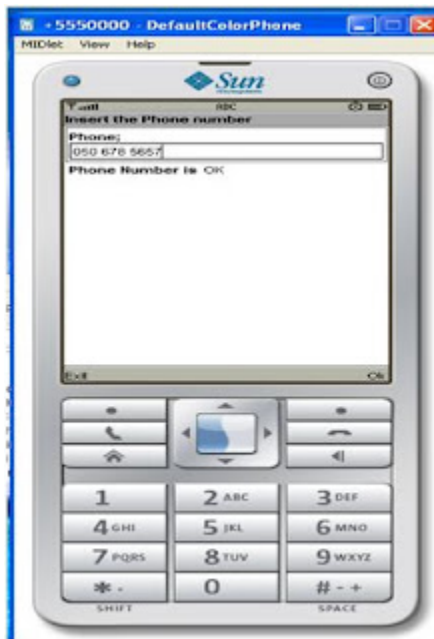
        form1.append(st);

    }

}
}

```

## OUTPUT:



## EXP 6:

Write a sample program to show how to make a SOCKET connection from J2ME phone. This J2ME sample program shows how to make a SOCKET connection from a J2ME phone. Many a time there is a need to connect backend HTTP server from the J2ME application. show how to make a SOCKET connection from the phone to port 80

```

import javax.microedition.midlet.*;
import javax.microedition.lcdui.*;
import java.io.*;
import javax.microedition.io.*;
public class socketconnection extends MIDlet implements
CommandListener {

```

```

private Command exit, start;
private Display display;
private Form form;
public socketconnection ()
{
    display = Display.getDisplay(this);
    exit = new Command("Exit", Command.EXIT, 1);
    start = new Command("Start", Command.EXIT, 1);
    form = new Form("Read Write Socket");
    form.addCommand(exit);
    form.addCommand(start);
    form.setCommandListener(this);
}
public void startApp() throws MIDletStateChangeException
{
    display.setCurrent(form);
}
public void pauseApp()
{
}
public void destroyApp(boolean unconditional)
{
}
public void commandAction(Command command, Displayable
displayable)
{
    if (command == exit)
    {
        destroyApp(false);
        notifyDestroyed();
    }
    else if (command == start)
    {
        try
        {
            StreamConnection connection = (StreamConnection)
Connector.open("socket://www.myserver.com:80");
            PrintStream output =
                new PrintStream(connection.openOutputStream() );
            output.println( "GET /my.html HTTP/0.9\n\n" );
            output.flush();
            InputStream in = connection.openInputStream();
            int ch;
            while( ( ch = in.read() ) != -1 )

```

```

    {
        System.out.print( (char) ch );
    }
    in.close();
    output.close();
    connection.close();
}
catch( ConnectionNotFoundException error )
{
    Alert alert = new Alert(
        "Error", "Cannot access socket.", null, null);
    alert.setTimeout(Alert.FOREVER);
    alert.setType(AlertType.ERROR);
    display.setCurrent(alert);
}
catch( IOException error )
{
    Alert alert = new Alert("Error", error.toString(),
null, null);
    alert.setTimeout(Alert.FOREVER);
    alert.setType(AlertType.ERROR);
    display.setCurrent(alert);
}
}
}
}

```

**OUTPUT:**



## EXP 7:

**This J2ME sample program shows how to display a simple LOGIN SCREEN on the J2ME phone and how to authenticate to a HTTP server**

**This free J2ME sample program, shows how a J2ME application can do authentication to the backend server.**

```
import javax.microedition.midlet.*;

import javax.microedition.lcdui.*;

import javax.microedition.io.*;

import java.io.*;

public class login extends MIDlet implements CommandListener {

    public Form form1;

    public Command okCommand;

    public Display display;

    public HttpURLConnection ht=null;

    public InputStream ist=null;

    public StringItem st;

    public TextField t1;

    public TextField t2;

    public Alert alert;

    public Form form2;

    public login()

    {

        display=Display.getDisplay(this);

        st=new StringItem(" ", " Welcome");

        alert =new Alert(" ", "Wrong UserName or
Password",null,AlertType.INFO);

        t1=new TextField("UserName"," ",30,TextField.ANY);

        t2=new TextField("Password"," ",30,TextField.PASSWORD);
```

```
form1=new Form("Login Here");  
form2=new Form("Welcome");  
okCommand=new Command("Login",Command.OK,1);  
form1.addCommand(okCommand);  
form1.setCommandListener(this);
```

```
form1.append(t1);  
form1.append(t2);  
form2.append(st);  
}
```

```
public void startApp() {  
    display.setCurrent(form1);  
}
```

```
public void pauseApp() {  
}
```

```
public void destroyApp(boolean unconditional) {  
    notifyDestroyed();  
}
```

```
public void commandAction(Command cmd,Displayable d)  
{  
    if(cmd==okCommand)
```



```

{
    try
    {

        //      String
        url="http://192.168.5.19:8080/WebApplication7/index.jsp?t1=101&t2=aaa";

        String
        url="http://192.168.5.19:8080/WebApplication7/index.jsp?t1="+t1.getString().trim()+"&t2="+t2.getString().trim();

        //ht=(HttpConnection)Connector.open("http://192.168.5.19:8080/WebApplication7/index.jsp");

        ht=(HttpConnection)Connector.open(url);

        ist=ht.openInputStream();

        byte[] b=new byte[900];

        ist.read(b);

        String s=new String(b);

        s=s.trim();

        if(s.equals("ok"))

            display.setCurrent(form2);

        else

        {

            alert.setTimeout(Alert.FOREVER);

```

```

        display.setCurrent(alert);
    }
}
catch(Exception ex)
{
form1.append(ex.toString());
}
}
}
}
}
}

```

## OUTPUT:



## EXP 8:

**Web Application using J2ME The following should be carried out with respect to the given set of application domains:(Assume that the Server is connected to the well-maintained database of the given domain. Mobile Client is to be connected to the Server and fetch the required data value/information)**

```
import javax.microedition.midlet.*;
import javax.microedition.lcdui.*;
import javax.microedition.io.*;
import java.io.*;
public class student extends MIDlet implements CommandListener
{
    public Form form1;
    public Command okCommand;
    public Display display;
    public HttpURLConnection ht=null;
    public InputStream ist=null;
    public StringItem st;
    public TextField t1;
    public Alert alert;
    public Form form2;
    public student()
    {
        display=Display.getDisplay(this);
        st=new StringItem("", " eg:-1201");

        alert=new Alert("", "STUDENT DETAILS NOT AVAILABLE or INVALID ID", null, AlertType.INFO);
        t1=new TextField("ENTER STUDENT ID:-", "", 5, TextField.NUMERIC);
        form1=new Form("WELCOME TO RESULTS");
        form2=new Form("STUDENT MARKS");
        okCommand=new Command("GET", Command.OK, 1);
        Command back=new Command("BACK", Command.OK, 0);
        form1.addCommand(okCommand);
        form2.addCommand(back);
        form1.setCommandListener(this);
        form2.setCommandListener(this);
        form1.append(t1);
        form1.append(st);
    }
    public void startApp()
    {
        display.setCurrent(form1);
    }
    public void pauseApp()
    {}
    public void destroyApp(boolean unconditional)
    {
        notifyDestroyed();
    }
    public void commandAction(Command cmd, Displayable d)
    {
        if(cmd==okCommand)
        {

```

```

Thread t=new Thread()
{
    public void run()
    {
        connect();
    }
};
t.start();
}
}

private void connect()
{
try
{
String url="http://localhost:8081/week8/index.jsp?t1="+t1.getString().trim();
ht=(HttpConnection)Connector.open(url);
ist=ht.openInputStream();
byte[] b=new byte[900];
ist.read(b);
String s=new String(b);
s=s.trim();
if(s.equals("no"))
{
alert.setTimeout(Alert.FOREVER);
display.setCurrent(alert);
}
else
{
form2.append(s);
display.setCurrent(form2);
}
}
catch(Exception ex)
{
form1.append(ex.toString());
}
}
}

```

## ***Index.jsp***

```

<%@page import="java.sql.*,java.io.*"%>
<%
String id=request.getParameter("t1");
String sql="select * from marks";
String DP="",MC="",DS="",CNS="",s="";
int count=0;

try{
Class.forName("oracle.jdbc.driver.OracleDriver");
System.out.println("Driver Registered");

```

## Connection

```
con=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:XE","system","tiger");
System.out.println("connection established");
Statement st=con.createStatement();
ResultSet rs=st.executeQuery(sql);
while(rs.next())
{
s=rs.getString(1);
if(id.equals(s))
{
DP=rs.getString(2);
CNS=rs.getString(3);
DS=rs.getString(4);

count++;
}
}
if(count==1)
{
out.println("STUDENT ID: "+id);
out.println("\nDESIGN PATTERN MARKS:- " +DP);
out.println("\nCNS MARKS:- " +CNS);
out.println("DISTRIBUTED SYSTEMS MARKS:- " +DS);

}
else
{
out.println("no");
}
}
catch(Exception ex)
{
out.println(ex.toString());
out.close();
}
%>
```

## OUTPUT:



### EXP 9:

Write an Android application program that displays Hello World using Eclipse.

### activities.xml

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/welcome"
        android:textSize="50sp"
    />

</LinearLayout>
```

### MainActivites.java

```
package com.example.myapplication;

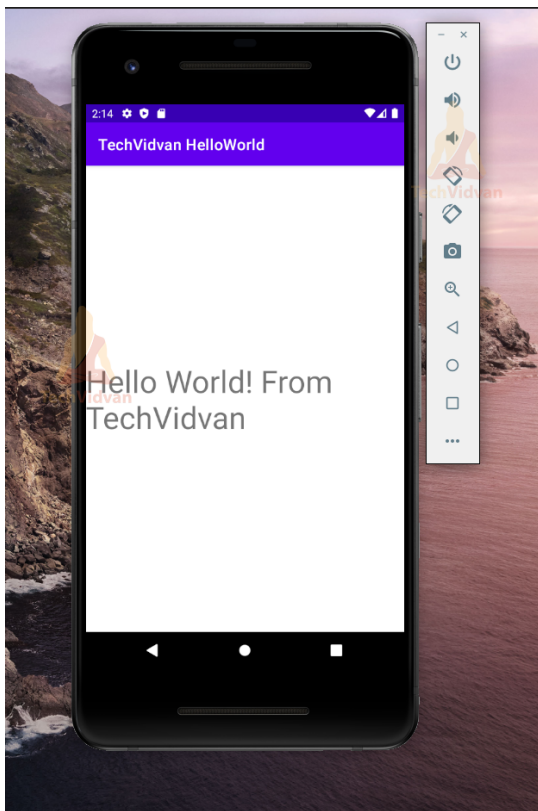
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

### OUTPUT



## EXP10.

**Write an Android application program that accepts a name from the user and displays the hello name to the user in response as output using Eclipse**

[activities.xml](#)

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
```

```
xmlns:android="http://schemas.android.com/apk/res/android"
"
```

```
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
>
```



```

<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Enter Text :"
    android:textSize="40sp"
/>
<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/et1"
/>
<Button
    android:id="@+id/b1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="GetText"
    android:textSize="40sp"/>
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="_____ "
    android:textSize="40sp"
    android:id="@+id/tv1"
/>
</LinearLayout>

```

## MainActivity.java

```

package cubexsoft.firstex;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends android.app.Activity

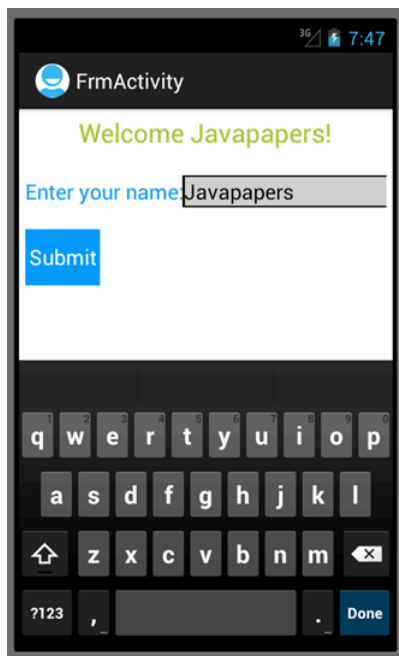
```

```

{
    @Override
    protected void onCreate(@Nullable Bundle
savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button b=(Button)findViewById(R.id.b1);
        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                EditText et1=(EditText)findViewById(R.id.et1);
                TextView tv1=(TextView)findViewById(R.id.tv1);
                tv1.setText(et1.getText());
            }
        });
    }
}

```

## OUTPUT:



## EXP 11:

Write an Android application program that demonstrates the

following:

(i) Linear Layout(ii) Relative Layout(iii) Table Layout(iv) Grid View layout

(i) Linear Layout

## activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingLeft="20dp"
    android:paddingRight="20dp"
    android:orientation="vertical" >
    <EditText
        android:id="@+id/txtTo"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="To" />
    <EditText
        android:id="@+id/txtSub"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Subject" />
    <EditText
        android:id="@+id/txtMsg"
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1"
        android:gravity="top"
        android:hint="Message" />
    <Button
        android:layout_width="100dp"
        android:layout_height="wrap_content"
        android:layout_gravity="right"
        android:text="Send" />
```

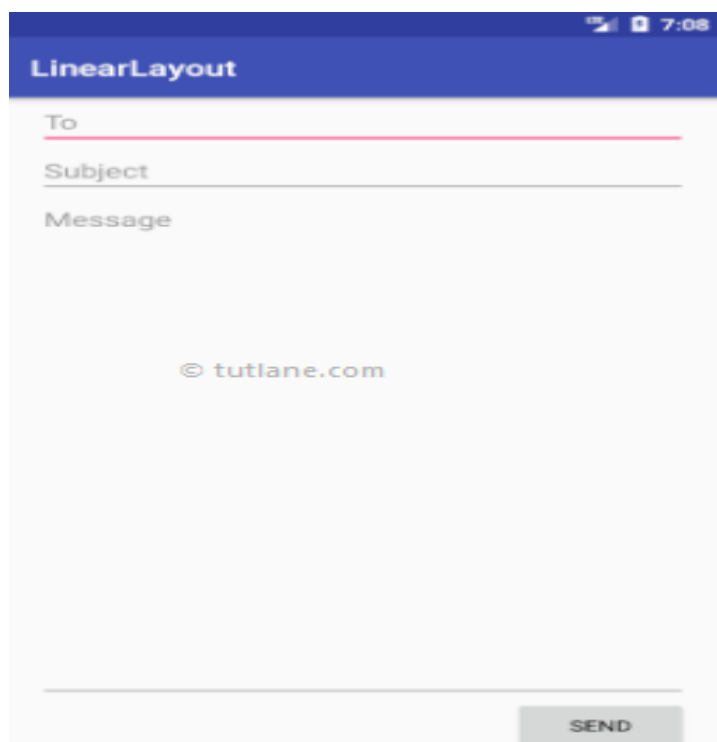
</LinearLayout>

## MainActivity.java

```
package com.tutlane.linearlayout;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle
savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

## OUTPUT;



## (ii) Relative Layout

## activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingLeft="10dp"
    android:paddingRight="10dp">
    <Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:text="Button1" />
    <Button
        android:id="@+id/btn2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentRight="true"
        android:layout_centerVertical="true"
        android:text="Button2" />
    <Button
        android:id="@+id/btn3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_centerVertical="true"
        android:text="Button3" />

    <Button
        android:id="@+id/btn4"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:text="Button4" />
    <Button
        android:id="@+id/btn5"
        android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/btn2"
        android:layout_centerHorizontal="true"
        android:text="Button5" />
<Button
    android:id="@+id/btn6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_above="@+id/btn4"
    android:layout_centerHorizontal="true"
    android:text="Button6" />
<Button
    android:id="@+id/btn7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_toEndOf="@+id/btn1"
    android:layout_toRightOf="@+id/btn1"
    android:layout_alignParentRight="true"
    android:text="Button7" />
</RelativeLayout>

```

## MainActivity.java

```

package com.tutlane.linearlayout;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle
savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}

```

## OUTPUT:



### (iii) Table Layout

#### activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<TableLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_marginTop="100dp"
    android:paddingLeft="10dp"
    android:paddingRight="10dp" >
    <TableRow android:background="#0079D6"
android:padding="5dp">
        <TextView
            android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="UserId" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="User Name" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Location" />
</TableRow>
<TableRow android:background="#DAE8FC"
android:padding="5dp">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="1" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Suresh Dasari" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Hyderabad" />
</TableRow>
<TableRow android:background="#DAE8FC"
android:padding="5dp">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="2" />
    <TextView

```



```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Rohini Alavala" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Guntur" />
</TableRow>
<TableRow android:background="#DAE8FC"
android:padding="5dp">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="3" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Trishika Dasari" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Guntur" />
</TableRow>
</TableLayout>

```

## MainActivity.java

```

package com.tutlane.linearlayout;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle
savedInstanceState) {

```

```

        super.onCreate(savedInstanceState) ;
        setContentView(R.layout.activity_main) ;
    }
}

```

## OUTPUT:



Userid	User Name	Location
1	Suresh Dasari	Hyderabad
2	Rohini Alavala	Guntur
3	Trishika Dasari	Guntur

## (iv) Grid View layout

### Activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<androidx.constraintlayout.widget.ConstraintLayout
```

```
xmlns:android="http://schemas.android.com/apk/res/android"

```

```
xmlns:tools="http://schemas.android.com/tools"
```

```
android:layout_width="match_parent"
```

```
android:layout_height="match_parent"
```

```
tools:context=".MainActivity">
```

<!-- android:numColumns=2 is the number of columns  
for Grid View

android:horizontalSpacing is the space between  
horizontal

```
        grid items.-->
<GridView
    android:id="@+id/idGVcourses"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:horizontalSpacing="6dp"
    android:numColumns="2"
    android:verticalSpacing="6dp" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

Note: Click on the app > res > layout > Right-Click > Layout Resource file

### card\_item.xml

```
<?xml version="1.0" encoding="utf-8"?>
<!--XML implementation of Card Layout-->
<androidx.cardview.widget.CardView
```

```
xmlns:android="http://schemas.android.com/apk/res/android"
"
```

```
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"
    android:layout_height="120dp"
    android:layout_gravity="center"
    android:layout_margin="5dp"
    app:cardCornerRadius="5dp"
    app:cardElevation="5dp">
```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical">
```

```
<ImageView
```

```
    android:id="@+id/idIVcourse"
    android:layout_width="100dp"
    android:layout_height="100dp"
    android:layout_gravity="center"
    android:src="@mipmap/ic_launcher" />
```

```
<TextView
    android:id="@+id/idTVCourse"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="@string/app_name"
    android:textAlignment="center" />
```

```
</LinearLayout>
```

```
</androidx.cardview.widget.CardView>
```

## **MainActivity.java**

```
import android.os.Bundle;
import android.widget.GridView;
import androidx.appcompat.app.AppCompatActivity;
import java.util.ArrayList;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    GridView coursesGV;
```

```
    @Override
```

```
    protected void onCreate(Bundle
savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

```
coursesGV = findViewById(R.id.idGVcourses);
```

```
    ArrayList<CourseModel>  
courseModelArrayList = new  
ArrayList<CourseModel>();  
        courseModelArrayList.add(new  
CourseModel("DSA", R.drawable.ic_gfglogo));  
        courseModelArrayList.add(new  
CourseModel("JAVA", R.drawable.ic_gfglogo));  
        courseModelArrayList.add(new  
CourseModel("C++", R.drawable.ic_gfglogo));  
        courseModelArrayList.add(new  
CourseModel("Python", R.drawable.ic_gfglogo));  
        courseModelArrayList.add(new  
CourseModel("Javascript", R.drawable.ic_gfglogo));  
        courseModelArrayList.add(new  
CourseModel("DSA", R.drawable.ic_gfglogo));  
  
        CourseGVAdapter adapter = new  
CourseGVAdapter(this, courseModelArrayList);  
        coursesGV.setAdapter(adapter);  
    }  
}
```

- Now click on app > java > apps package name > Right-Click on it.
- Then Click on New > Java Class

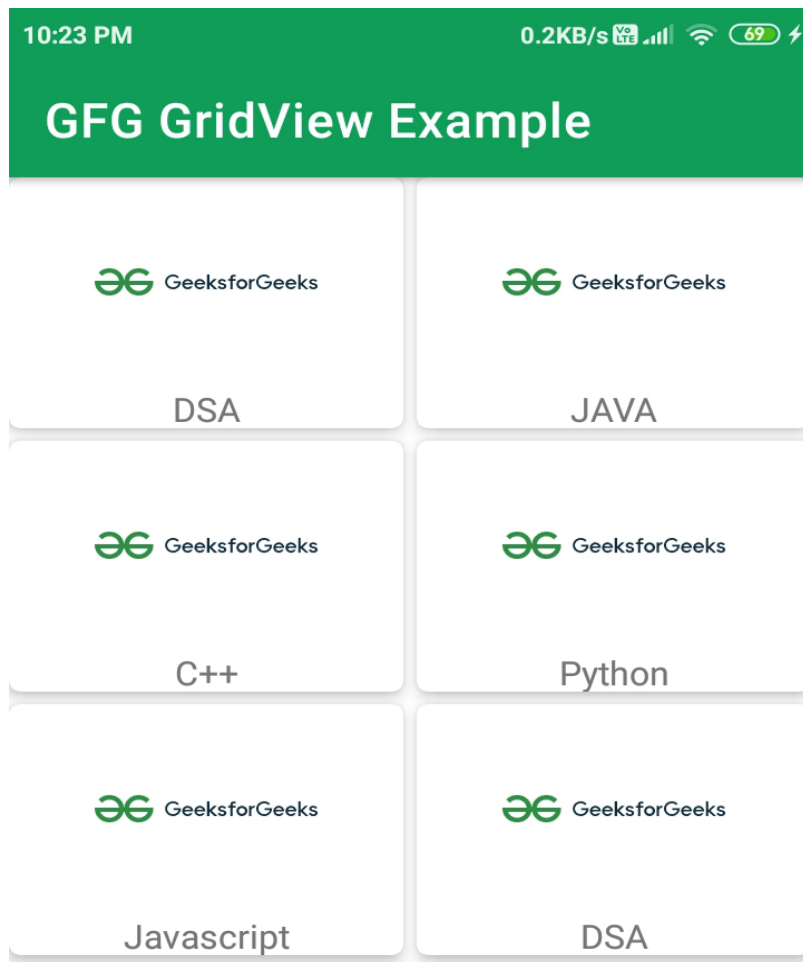
**CourseModel.java**

```
import android.os.Bundle;
import android.widget.GridView;
import androidx.appcompat.app.AppCompatActivity;
import java.util.ArrayList;
public class MainActivity extends
AppCompatActivity {
    GridView coursesGV;

    @Override
    protected void onCreate(Bundle
savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        coursesGV =
findViewById(R.id.idGVcourses);
        ArrayList<CourseModel>
courseModelArrayList = new
ArrayList<CourseModel>();
        courseModelArrayList.add(new
CourseModel("DSA", R.drawable.ic_gfglogo));
        courseModelArrayList.add(new
CourseModel("JAVA", R.drawable.ic_gfglogo));
        courseModelArrayList.add(new
CourseModel("C++", R.drawable.ic_gfglogo));
```

```
        courseModelArrayList.add(new
CourseModel("Python", R.drawable.ic_gfglogo));
        courseModelArrayList.add(new
CourseModel("Javascript",
R.drawable.ic_gfglogo));
        courseModelArrayList.add(new
CourseModel("DSA", R.drawable.ic_gfglogo));
        CourseGVAdapter adapter = new
CourseGVAdapter(this, courseModelArrayList);
        coursesGV.setAdapter(adapter);
    }
}
```

## OUTPUT:



## EXP 12:

Write an Android application program that converts the temperature in Celsius to Fahrenheit.

### Activites.xml

```
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/a
ndroid"
    android:id="@+id/ll"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:orientation="vertical" >
```



```
<EditText
    android:id="@+id/editText1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="numberDecimal" >
</EditText>
<TextView
    android:id="@+id/result"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="30sp" />
    <RadioGroup
        android:id="@+id/radioGroup1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" >
        <RadioButton
            android:id="@+id/cb"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:checked="true"
            android:text="Celcius" />
        <RadioButton
            android:id="@+id/fb"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Fahrenhiet" />
    </RadioGroup>
<Button
    android:id="@+id/button1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="add"
```

```
        android:text="Convert"
        android:textSize="30sp" />
</LinearLayout>
```

### **MainActivity.java**

```
package com.innoson; //your package name
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.LinearLayout;
import android.widget.RadioButton;
import android.widget.TextView;
import android.app.Activity;
import android.graphics.Color;
public class MainActivity extends Activity {
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public void add(View v)
    {
        LinearLayout ll=(LinearLayout)findViewById(R.id.ll);
        TextView
result=(TextView)findViewById(R.id.result);
        EditText et1=(EditText)findViewById(R.id.editText1);

        //get value from edit text box and convert into
double
        double
a=Double.parseDouble(String.valueOf(et1.getText()));
```

**RadioButton**

**cb=(RadioButton)findViewById(R.id.cb);**

**RadioButton**

**fb=(RadioButton)findViewById(R.id.fb);**

**//check which radio button is checked**

**if(cb.isChecked())**

**{**

**//change background colour**

**ll.setBackgroundColor(Color.YELLOW);**

**//display conversion**

**result.setText(f2c(a)+" degree C");**

**//cb.setChecked(false);**

**fb.setChecked(true);**

**}**

**else**

**{**

**ll.setBackgroundColor(Color.CYAN);**

**result.setText(c2f(a)+" degree F");**

**//fb.setChecked(false);**

**cb.setChecked(true);**

**}**

**}**

**//Celcius to Fahrenhiet method**

**private double c2f(double c)**

**{**

**return (c\*9)/5+32;**

**}**

**//Fahrenhiet to Celcius method**

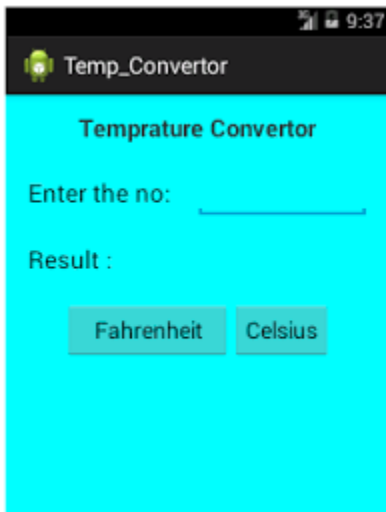
**private double f2c(double f)**

**{**

**return (f-32)\*5/9;**

```
}  
}
```

## OUTPUT:



## EXP: 13

Write an Android application program that demonstrates intent in mobile application development

### activity.xml

```
<?xml version="1.0" encoding="utf-8"?>  
<android.support.constraint.ConstraintLayout  
    xmlns:android="http://schemas.android.com/apk/res/a  
    ndroid"  
  
    xmlns:app="http://schemas.android.com/apk/res-auto"  
    xmlns:tools="http://schemas.android.com/tools"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent"  
    tools:context=".MainActivity">
```

**<!-- add an edittext to input text -->**

**<EditText**

**android:id="@+id/editText1"  
android:layout\_width="0dp"  
android:layout\_height="wrap\_content"  
android:layout\_alignParentTop="true"  
android:layout\_centerHorizontal="true"  
android:layout\_marginTop="136dp"  
android:ems="10"  
app:layout\_constraintEnd\_toEndOf="parent"  
app:layout\_constraintStart\_toStartOf="parent"  
app:layout\_constraintTop\_toTopOf="parent" />**

**<!-- add a button for click -->**

**<Button**

**android:id="@+id/button1"  
android:layout\_width="wrap\_content"  
android:layout\_height="wrap\_content"  
android:layout\_below="@+id/editText1"  
android:layout\_centerHorizontal="true"  
android:layout\_marginTop="49dp"  
android:layout\_marginEnd="132dp"  
android:text="Click"**

**app:layout\_constraintEnd\_toEndOf="@+id/editText1"**

**app:layout\_constraintTop\_toBottomOf="@+id/editText1" />**

**</android.support.constraint.ConstraintLayout>**

## MainActivity.java

```
import android.app.Activity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends Activity {

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        // Bind the components to their respective objects
        // by assigning their IDs
        // with the help of findViewById() method
        final EditText editText1 =
        (EditText)findViewById(R.id.editText1);
        Button button =
        (Button)findViewById(R.id.button1);

        // implementation of onClick event for Implicit
        Intent
        button.setOnClickListener(new
        View.OnClickListener() {
            @Override
```

```

public void onClick(View v)
{
    // performing webpage open action
    String url = editText1.getText().toString();
    Intent intent = new
Intent(Intent.ACTION_VIEW, Uri.parse(url));
    startActivity(intent);
}
});
}
}

```

## OUTPUT



