MOBILE COMPUTING LAB

B17 IT 4111

1.Write a J2ME program to show " Hello World" .

Code:

```
import javax.microedition.lcdui.*;
import javax.microedition.midlet.*;
public class Prudhvi extends MIDlet
{
   Form fm;
   Display dp;
   public Prudhvi()
   {
      fm = new Form("17B91A12D2");
      dp = Display.getDisplay(this);
   }
   public void startApp()
   {
      String msg = "Hello 17B91A12D2";
      fm.append(msg);
      dp.setCurrent(fm);
   }
   public void pauseApp()
   {
   }
   public void destroyApp(boolean uncondition)
   {
   }
}
```

Output:

2.Create a J2ME menu which has the following options:

· 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 (without event handling)

Code:

```
import javax.microedition.lcdui.*;
import javax.microedition.midlet.*;
public class MyForm extends MIDlet
{
  Form fm;
  Display dis;
  Command exit,view;
  ChoiceGroup ch1,ch2;
  public MyForm()
  {
    fm=new Form("17B91A12D2");
    dis=Display.getDisplay(this);
    exit = new Command("exit",Command.EXIT,2);
    view = new Command("view",Command.OK,1);

    fm.addCommand(exit);
```

```
    fm.addCommand(view);

    ch1=new ChoiceGroup("CheckBoxes",Choice.MULTIPLE);
    ch2=new ChoiceGroup("Radio",Choice.EXCLUSIVE);

    ch1.append("cut",null);
    ch1.append("copy",null);
    ch1.append("paste",null);
    ch2.append("selectAll",null);
    ch2.append("UnselectAll",null);
    ch1.setSelectedIndex(2,true);
    ch2.setSelectedIndex(0,true);
    fm.append(ch1);
    fm.append(ch2);
  }
  public void startApp()
  {
    dis.setCurrent(fm);
  }
  public void pauseApp()
  {
  }
  public void destroyApp(boolean un)
  {
  }
}
```

Output:

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 (with event handling)

Code:

Second.java:

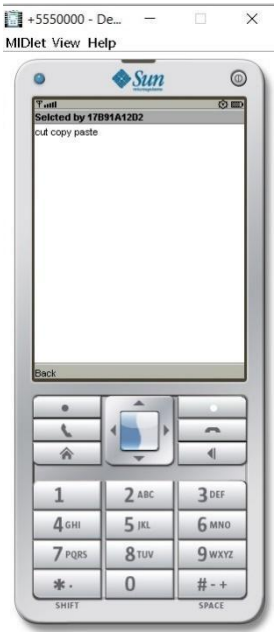
```
import javax.microedition.midlet.*;
import javax.microedition.lcdui.*;
public class Second extends MIDlet implements CommandListener, ItemStateListener {
    public ChoiceGroup ch;
    public ChoiceGroup ch1;
    public Form form;
    public Form form1;
    public Display display;
    public Command View;
    public Command Exit;
    public Command Back;
    public StringItem options;
    public Item item;
    public Second() {
        display = Display.getDisplay(this);
        form = new Form("17B91A12D2");
        form1 = new Form("Selcted by 17B91A12D2");
        ch = new ChoiceGroup("17B91A12D2", 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("");
    int i=0;
    while(i<ch.size())
    {
        if(opt[i]==true)
        {
        values=values+ch.getString(i)+" ";
        }
        i++;
```

```
        }
            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:


+5550000 - De...
MIDlet View Help
17B91A12D2
17B91A12D2
cut
copy
paste
delete
select all
unselect all
Exit
View


+5550000 - De...
MIDlet View Help
Selcted by 17B91A12D2
cut copy paste
Back


+5550000 - De...
MIDlet View Help
17B91A12D2
17B91A12D2
cut
copy
paste
delete
select all
unselect all
Exit
View

4.Bargraph

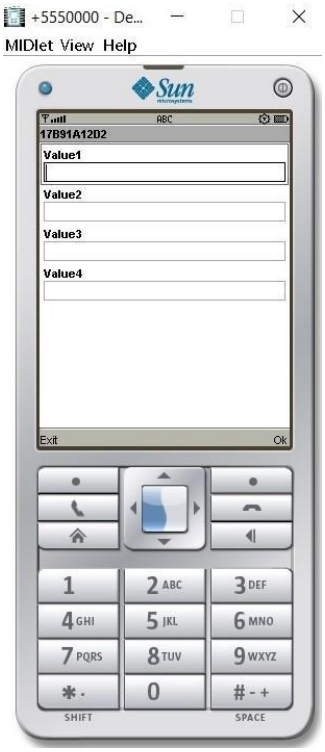
Code:

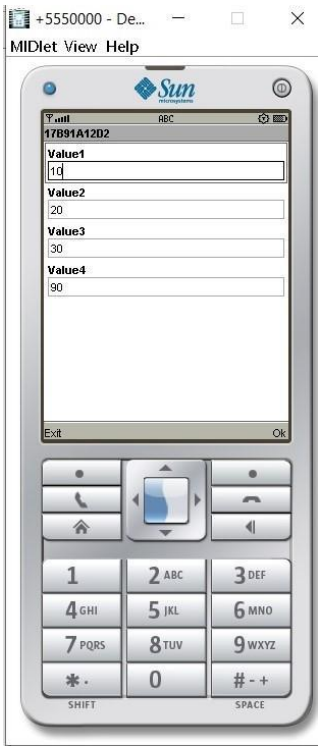
```
import javax.microedition.lcdui.*;
import javax.microedition.midlet.*;
public class BarProgram extends MIDlet implements CommandListener
{
 Form fm;
 Display dp;
 BarCanvas d;
 TextField f1,f2,f3,f4;
 Command exit,ok,back;
 public BarProgram()
 {
  fm=new Form("17B91A12D2");
  dp=Display.getDisplay(this);
  f1=new TextField("Value1","",30,TextField.ANY);
  f2=new TextField("Value2","",30,TextField.ANY);
  f3=new TextField("Value3","",30,TextField.ANY);
  f4=new TextField("Value4","",30,TextField.ANY);
  fm.append(f1);
  fm.append(f2);
  fm.append(f3);
  fm.append(f4);
  ok=new Command("Ok",Command.OK,1);
  exit=new Command("Exit",Command.EXIT,1);
  back=new Command("Back",Command.BACK,1);
  fm.addCommand(ok);
  fm.addCommand(exit);
  fm.setCommandListener(this);
 }
 public void startApp(){
  dp.setCurrent(fm);
 }
 public void pauseApp()
 {
 }
```

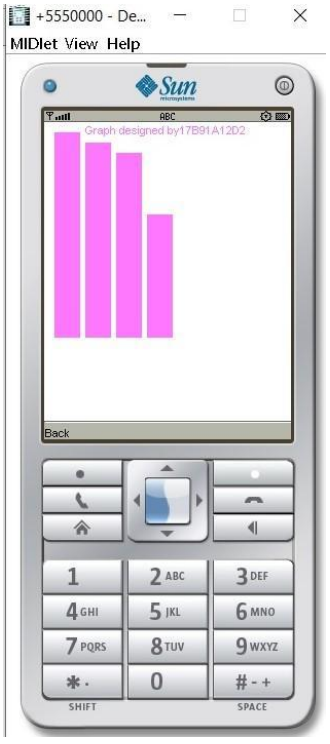
```
  public void destroyApp(boolean unconditional)
  {
  }
  public void commandAction(Command command,Displayable displayable)
  {
   if(displayable==fm)
   {
    if(command==ok)
    {
     int [] data =new int[4];
     data[0]=Integer.parseInt(f1.getString());
     data[1]=Integer.parseInt(f2.getString());
     data[2]=Integer.parseInt(f3.getString());
     data[3]=Integer.parseInt(f4.getString());
     d=new BarCanvas(data);
     d.addCommand(back);
     d.setCommandListener(this);
     dp.setCurrent(d);
    }
    else if(command==exit)
    {
     notifyDestroyed();
    }
   }
   else if(displayable==d)
    {
     if(command==back)
     {
      dp.setCurrent(fm);
     }
    }
  }
}
class BarCanvas extends Canvas
{
```

```
int [] data;
public int x;
public int y,y1,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(255,120,240);
   g.drawString("Graph designed by17B91A12D2",40,0,g.TOP | g.LEFT);
   int i=0;
   y1=data[0];
   h=200;
   while(i<data.length)
   {
    y=data[i];
    h=200+y1-y;
    g.fillRect(x,y,25,h);
    x+=30;
    i++;
   }
}
}
```

Output:


+5550000 - De...
MIDlet View Help
17B91A12D2
Value1
Value2
Value3
Value4
Exit
Ok


+5550000 - De...
MIDlet View Help
17B91A12D2
Value1
10
Value2
20
Value3
30
Value4
90
Exit
Ok


+5550000 - De...
MIDlet View Help
Graph designed by17B91A12D2
Back

5.Phone Number Validation

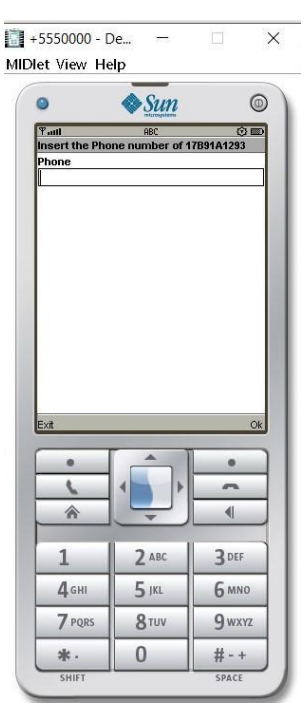
Code:

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

public class InputCheck extends MIDlet implements CommandListener {
   public Form form1;
   public TextField textfield1;
   public Command exitCommand;
   public Command okCommand;
   public StringItem st;
   public Display display;

   public InputCheck() {
      display = Display.getDisplay(this);
      form1 = new Form("Insert the Phone number of 17B91A1293");
      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(' ', '.');
      System.out.println("After replace :"+s);

      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("VALID");
        else {

            st.setText("Wrong\n Phone Number Format is xxx xxxxxxx\nArea code must be 040|050|041|0400|044");
        }
        form1.append(st);
      }
   }
}
```

Output:



ANDROID:

1.Hello world program

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://s
chemas.android.com/apk/res/android"
    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">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello 17B91A12D2"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

MainActivity.java:

```
package com.example.helloworld;

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);
    }
}
```

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
```

```
    package="com.example.helloworld">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />


<category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

OUTPUT:

2.Event welcome text

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://s
chemas.android.com/apk/res/android"
    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">

    <EditText
        android:layout_width="wrap_content"

        android:layout_height="match_parent"
```

```
        android:id="@+id/et"
        android:layout_marginTop="50dp"


        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"/>

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/bt"
        android:text="click"
        android:layout_marginTop="150dp"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/tv"
        android:text=""
        android:layout_marginTop="250dp"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        /
</androidx.constraintlayout.widget.ConstraintLayout>
```

Mainactivity.java:

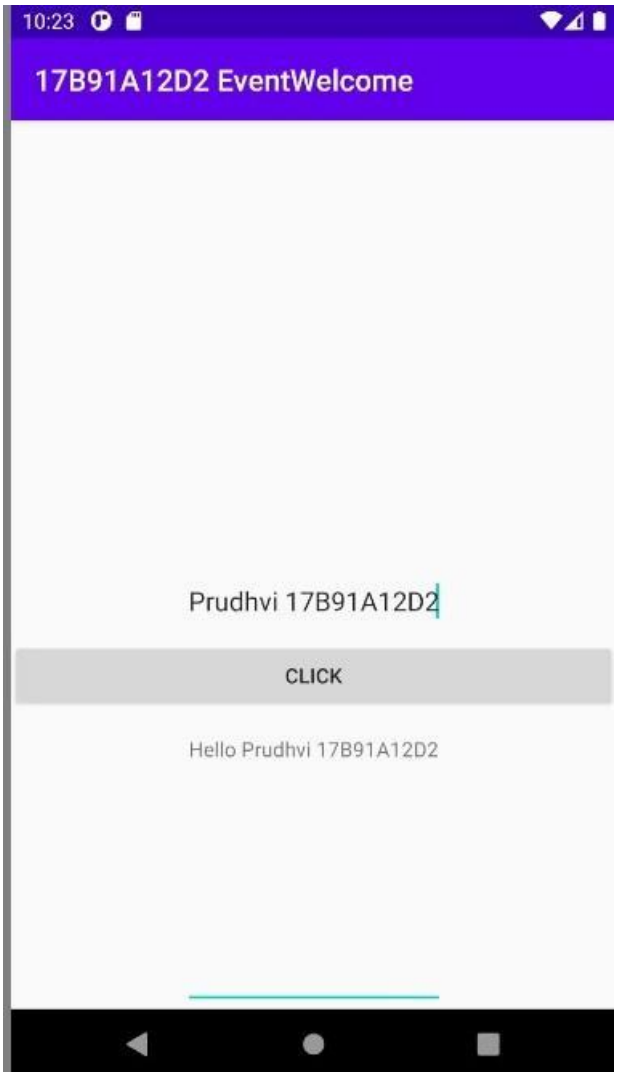
```
package com.example.a17b91a12d2eventwelcome;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.*;
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {
    Button bt;
    EditText et;
    TextView tv;
```

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

        bt=(Button) findViewById(R.id.bt);
        et=(EditText) findViewById(R.id.et);
        tv=(TextView) findViewById(R.id.tv);

        bt.setOnClickListener(new View.OnClickListener() {

                                    @Override
                                    public void onClick(View v)
                                    {
                                        String st=et.getText().toString();
                                        tv.setText("Hello "+st);
                                    }
                                }
        );

    }
}
```

android manifestation.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.a17b91a12d2eventwelcome">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />


<category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

OUTPUT:



3.Layouts

A)Linear Layout:

Linearlayout.xml:

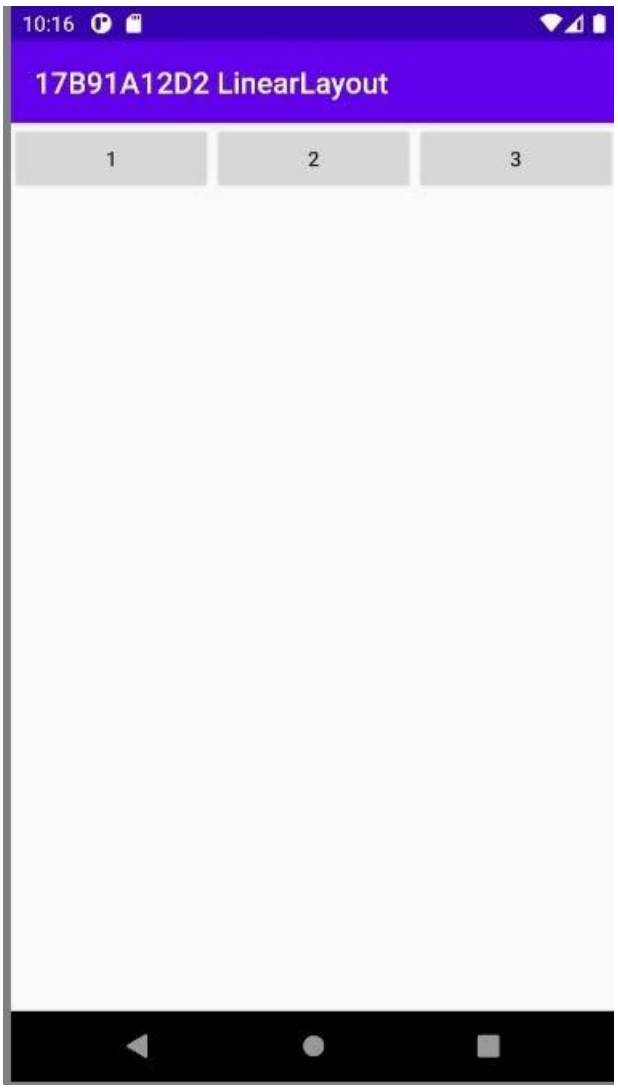
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  android:orientation="horizontal">
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```
    android:text="1"
    android:layout_weight="1"/>
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="2"
    android:layout_weight="1"/>
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="3"
    android:layout_weight="1"/>

</LinearLayout>
```

Mainactivity.java:

```
package com.example.a17b91a12d2linearlayout;

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:



B)Grid Layout:

Gridlayout.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<GridLayout xmlns:android="http://schemas.android.com/apk/res/android"
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  android:rowCount="2"
  android:columnCount="2">
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="1"
    android:layout_weight="1"/>
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="2"
```

```
    android:layout_weight="1"/>
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="3"
    android:layout_weight="1"/>
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="4"
    android:layout_weight="1"/>
</GridLayout>
```

Mainactivity.java:

```
package com.example.a17b91a12d2gridlayout;

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:

C)Table Layout:

Tablelayout.xml:

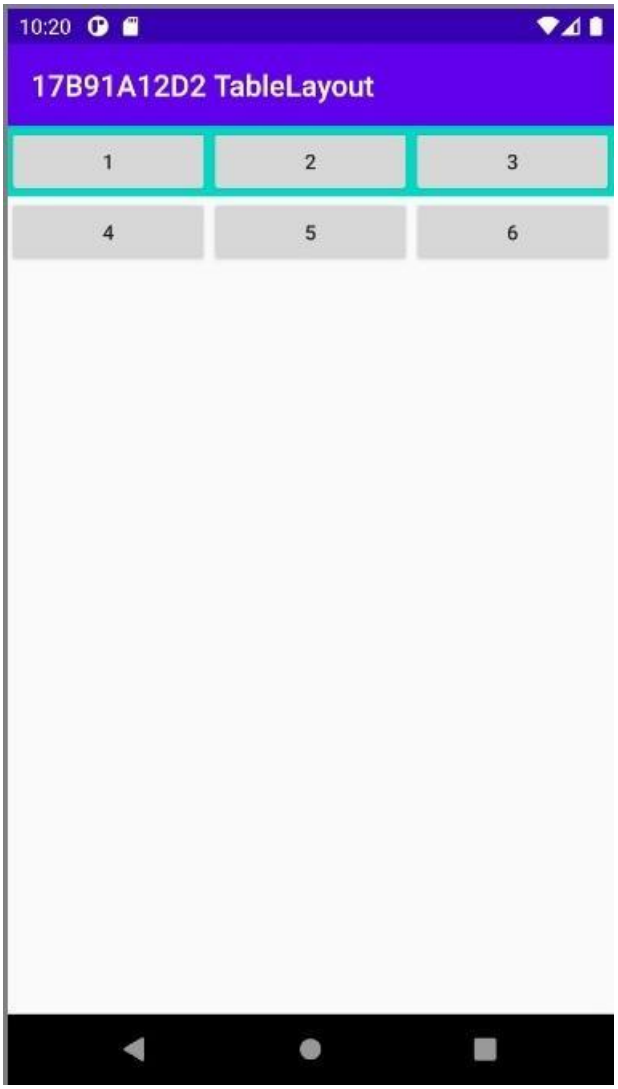
```
<?xml version="1.0" encoding="utf-8"?>
<TableLayout xmlns:android="http://schemas.android.com/apk/res/android"
  android:layout_width="match_parent"
  android:layout_height="match_parent">
  <TableRow android:background="@color/colorAccent">
    <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="1"
      android:layout_weight="1"/>
    <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="2"
      android:layout_weight="1"/>
    <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="3"
      android:layout_weight="1"/>
  </TableRow>
  <TableRow>
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="4"
    android:layout_weight="1"/>
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="5"
    android:layout_weight="1"/>
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="6"
    android:layout_weight="1"/>
</TableRow>

</TableLayout>
```

Mainactivity.java:

```
package com.example.a17b91a12d2tablelayout;

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:



D)Relative Layout:

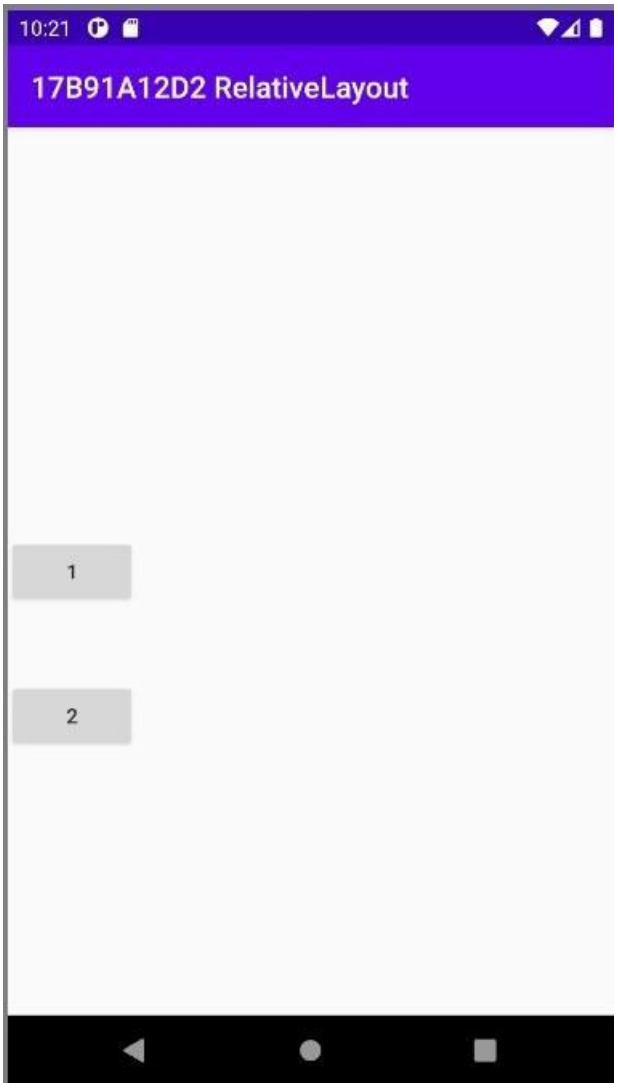
Relativelayout.xml:

```
<?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">
<Button
  android:layout_width="wrap_content"
  android:layout_height="wrap_content"
  android:id="@+id/bt1"
  android:layout_centerVertical="true"
  android:text="1"/>
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/bt1"
    android:layout_marginTop="50dp"
    android:layout_centerVertical="true"
    android:text="2"/>
</RelativeLayout>
```

Mainactivity.java:

```
package com.example.a17b91a12d2relativelayout;

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:



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

Code:

AndroidMainfest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.a17b91a12d2ctof">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".Result"></activity>
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />


<category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

Main_activity.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://s
chemas.android.com/apk/res/android"
    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">

    <TextView
        android:id="@+id/text1"
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="36dp"
    android:gravity="center"
    android:text="Celsius to Fahrenheit Convertion"
    android:textSize="25dp"
    android:textStyle="bold"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent">

</TextView>

<TextView
    android:id="@+id/text2"
    android:layout_width="141dp"
    android:layout_height="54dp"
    android:layout_marginStart="36dp"
    android:layout_marginTop="104dp"
    android:gravity="center"
    android:text="Enter Value :"
    android:textSize="25dp"
    android:textStyle="italic"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent">

</TextView>

<EditText
    android:id="@+id/et"
    android:layout_width="147dp"
    android:layout_height="55dp"
    android:layout_marginTop="104dp"
    android:layout_marginEnd="52dp"
    android:inputType="numberDecimal"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    tools:ignore="MissingConstraints"></EditText>

<Button
    android:id="@+id/b1"
    android:layout_width="106dp"
    android:layout_height="65dp"
    android:layout_marginStart="52dp"
    android:text="C to F"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.518"
    tools:ignore="MissingConstraints" />
```

```
    <Button
        android:id="@+id/b2"
        android:layout_width="106dp"
        android:layout_height="61dp"
        android:layout_marginEnd="80dp"
        android:text="F to C"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.52"
        tools:ignore="MissingConstraints" />

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

MainActivity.java:

```
package com.example.a17b91a12d2ctof;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.text.Editable;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

    Button btn,b1,b2;
    EditText et;
    Double a;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        et=(EditText)findViewById(R.id.et);
        b1=(Button)findViewById(R.id.b1);
        b2=(Button)findViewById(R.id.b2);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Editable myFloat;
                myFloat=et.getText();
                a=Double.parseDouble(String.valueOf(et.getText()));
                Double b=a*9/5+32;
                String r=String.valueOf(b);
                Intent res = new Intent(getApplicationContext(),
```

```
Result.class);
                res.putExtra("key",r);
                startActivity(res);
            }
        });

        b2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                a=Double.parseDouble(String.valueOf(et.getText()));
                Double b=a-32;
                Double c=b*5/9;
                String r=String.valueOf(c);
                Intent res = new Intent(getApplicationContext(),
Result.class);
                res.putExtra("key",r);
                startActivity(res);
            }
        });
    }
}
```

activity_result.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://s
chemas.android.com/apk/res/android"
    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=".Result">

    <TextView
        android:id="@+id/text2"
        android:layout_width="141dp"
        android:layout_height="54dp"
        android:layout_marginStart="116dp"
        android:layout_marginTop="36dp"
        android:gravity="center"
        android:text="Result"
        android:textSize="25dp"
        android:textStyle="bold"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

    </TextView>

    <TextView
```

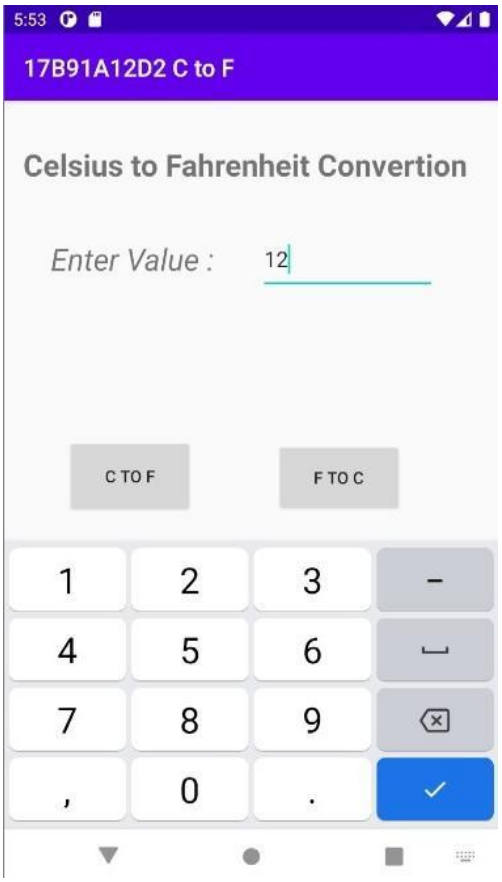
```
        android:id="@+id/textView"
        android:layout_width="358dp"
        android:layout_height="46dp"
        android:text="Convertion from Celsius to Fahrenheit"
        android:textSize="20dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.49"
        app:layout_constraintStart_toStartOf="parent"
        tools:ignore="MissingConstraints"
        tools:layout_editor_absoluteY="133dp">

    </TextView>

    <EditText
        android:id="@+id/et2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"

        android:layout_marginTop="296dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.459"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        tools:ignore="MissingConstraints" />

    <Button
        android:id="@+id/back"
        android:layout_width="173dp"
        android:layout_height="69dp"
        android:layout_marginBottom="100dp"
        android:text="Back"
        android:textSize="25dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        tools:ignore="MissingConstraints">
    </Button>

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

Result.java:

```
package com.example.a17b91a12d2ctof;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
```

```
import android.widget.Button;
import android.widget.EditText;

public class Result extends AppCompatActivity {

    Button b;
    EditText ans;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_result);
        b=(Button)findViewById(R.id.back);
        ans=(EditText)findViewById(R.id.et2);
        Intent it=getIntent();
        String res=it.getStringExtra("key");
        ans.setText(res);
        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent back
= new Intent(getApplicationContext(),MainActivity.class);
                startActivity(back);
            }
        });
    }
}
```

Output:


5:53
17B91A12D2 C to F
Celsius to Fahrenheit Convertion
Enter Value :
12
C TO F
F TO C
1
2
3
4
5
6
7
8
9
,
0
.


5:53
17B91A12D2 C to F
Convertion from Celsius to Fahrenheit
Result
53.6
BACK

5.Write an Android application program that demonstrates intent in mobile application Development

Code:

AndroidMainfest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.a17b91a12d2intent2">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
```

```
        <activity android:name=".Intent2"></activity>
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />


<category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

Main_activity.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://s
chemas.android.com/apk/res/android"
    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">

    <TextView
        android:id="@+id/text"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="Screen One"
        android:textColor="@color/colorPrimaryDark"
        android:textSize="30dp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        tools:ignore="InvalidId,MissingConstraints"
        tools:layout_editor_absoluteY="70dp"></TextView>

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Click Me"
        android:textAlignment="center"
        android:textSize="20dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
```

```
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/text"
        app:layout_constraintVertical_bias="0.634"
        tools:ignore="MissingConstraints">

    </Button>

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

MainActivity.java:

```
package com.example.a17b91a12d2intent2;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

    Button b;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b=(Button)findViewById(R.id.button);
        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent it
= new Intent(getApplicationContext(),Intent2.class);
                startActivity(it);
            }
        });
    }
}
```

Activity_intent2.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://s
chemas.android.com/apk/res/android"
    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=".Intent2">

    <TextView
        android:id="@+id/text"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="Screen Two"
        android:textColor="@color/colorPrimaryDark"
        android:textSize="30dp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        tools:ignore="InvalidId,MissingConstraints"
        tools:layout_editor_absoluteY="70dp"></TextView>

    <Button
        android:id="@+id/button2"
        android:layout_width="150dp"
        android:layout_height="68dp"
        android:text="Back"
        android:textAlignment="center"
        android:textSize="20dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/text"
        app:layout_constraintVertical_bias="0.565"
        tools:ignore="MissingConstraints">

    </Button>

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

Intent2.java:

```java
package com.example.a17b91a12d2intent2;
```

```
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

    Button b;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b=(Button)findViewById(R.id.button);
        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent it
= new Intent(getApplicationContext(),Intent2.class);
                startActivity(it);
            }
        });
    }
}
```

Output:

10. Write an Android application program that demonstrates parsing JSON
use following https://randomuser.me api to read at least name, gender, email address.

Code:

activity_main.xml :

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"
  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">

  <ImageView
    android:id="@+id/image"
    android:layout_width="match_parent"
```

```
    android:layout_height="300dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

  <TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text=""
    android:id="@+id/name"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/image"
    android:gravity="center"
    android:textSize="24dp">
  </TextView>

  <TextView
    android:id="@+id/gender"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:gravity="center"
    android:text=""
    android:textSize="24dp"
    app:layout_constraintBottom_toTopOf="@+id/textView2"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/name"></TextView>

  <TextView
    android:id="@+id/age"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    app:layout_constraintTop_toBottomOf="@+id/name"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    android:gravity="center"
    android:text=""
    android:textSize="24dp"></TextView>


  <TextView
    android:id="@+id/textView2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:gravity="center"
    android:text="17B91A1261"
    app:layout_constraintBottom_toTopOf="@+id/button"
    app:layout_constraintTop_toTopOf="@+id/age"
    tools:layout_editor_absoluteX="0dp" />

  <Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/button"

    android:text="Make Call"
    app:layout_constraintBottom_toBottomOf="parent">

  </Button>

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

MainActivity.java :

```
package com.example.a17b91a1261;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.net.Uri;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.TextView;

import com.android.volley.AuthFailureError;
import com.android.volley.Request;

import com.android.volley.RequestQueue;
import com.android.volley.Response;
import com.android.volley.VolleyError;
import com.android.volley.toolbox.StringRequest;
import com.android.volley.toolbox.Volley;
import com.bumptech.glide.Glide;

import org.json.JSONArray;
import org.json.JSONException;
import org.json.JSONObject;

import java.io.IOException;
import java.io.InputStream;
import java.net.HttpURLConnection;
import java.net.MalformedURLException;
import java.net.URL;
import java.util.HashMap;
import java.util.Map;

public class MainActivity extends AppCompatActivity {
  Button bt;
  TextView tv;
  TextView a,gen;
  ImageView img;
  String gender;
  String sname;
  String imgurl;
  String age;
  String url = "https://randomuser.me/api/";

  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    tv = (TextView) findViewById(R.id.name);
    img = (ImageView) findViewById(R.id.image);
    a = (TextView) findViewById(R.id.age);
    gen=(TextView) findViewById(R.id.gender);
    bt = (Button) findViewById(R.id.button);
```

```
    bt.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {

        requestRandomUser("female");

      }
    });
  }

  public void requestRandomUser(String pgender) {

    Log.v("URL is ", url);
    RequestQueue queue = Volley.newRequestQueue(getApplicationContext());
    StringRequest sr = new StringRequest(Request.Method.GET, url, new Response.Listene
r<String>() {
      @Override
      public void onResponse(String response) {
        Log.v("response", response);
        try {
          JSONObject jsonObject = new JSONObject(response);
          getUserNameFromJson(jsonObject);


        } catch (JSONException e) {
          e.printStackTrace();
        }


      }
    }, new Response.ErrorListener() {
      @Override
      public void onErrorResponse(VolleyError error) {
        Log.v("response", error.toString());
      }
    }) {
// @Override
// protected Map<String, String> getParams() {
// Map<String, String> params = new HashMap<String, String>();
// params.put("gender", gender);
// //params.put("subject", subject);
//
// return params;
// }

// @Override
// public Map<String, String> getHeaders() throws AuthFailureError {
// Map<String, String> params = new HashMap<String, String>();
// params.put("Content-Type", "application/x-www-form-urlencoded");
// return params;
// }
    };
    queue.add(sr);
  }

  public void getUserNameFromJson(JSONObject obj) {

    try {
      JSONArray jsoArrayResult = obj.getJSONArray("results");
      Log.v("Inside result", jsoArrayResult.toString());
      for (int i = 0; i < jsoArrayResult.length(); i++) {
        JSONObject jsonobject = jsoArrayResult.getJSONObject(i);
```

```
        gender = jsonobject.getString("gender");
        sname = formatName(jsonobject.getString("name"));
        imgurl = formatePicture(jsonobject.getString("picture"));
        age= formatAge(jsonobject.getString("dob"));
      }

      Log.v("===Inside result== ", gender);
      Log.v("===Inside result== ", sname);
      Log.v("===Inside result== ", imgurl);
      gen.setText(gender);
      tv.setText(sname);
      a.setText("age:"+age);

//img.setImageURI(Uri.parse(imgurl));

      Glide.with(this).load(imgurl).into(img);

    }catch (Exception e) {
      e.printStackTrace();
    }
  }
  private String formatePicture(String jsonStringPicture) {
    String limgurl = "";
    try {
      JSONObject jsonObject = new JSONObject(jsonStringPicture);
      limgurl = jsonObject.getString("large");
    }catch (JSONException e) {
      e.printStackTrace();
    }

    return limgurl;

  }

  public String formatName(String jsonstringname) {
    String name = "";
    try {
      JSONObject jsonObject = new JSONObject(jsonstringname);
//name":{"title":"Monsieur","first":"Carl","last":"Joly"}
      String title = jsonObject.getString("title");
      String first = jsonObject.getString("first");
      String last = jsonObject.getString("last");
      name = title + "." + first + " " + last;

    }catch (JSONException e) {
      e.printStackTrace();
    }
    return name;
  }

  public String formatAge(String jsonstringname) {
    String age = "";
    try {
      JSONObject jsonObject = new JSONObject(jsonstringname);
      String a = jsonObject.getString("age");
      age+=a;

    }catch (JSONException e) {
      e.printStackTrace();
    }
    return age;
  }
```

```
}
```

AndroidManifest.xml :

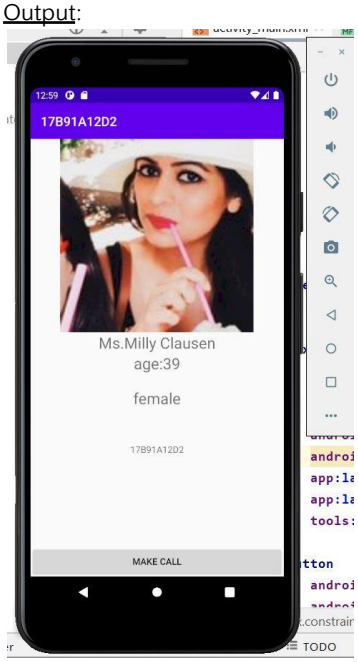
```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
  package="com.example.a17b91a1261">
  <uses-permission android:name="android.permission.INTERNET" />
  <uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />


  <application
    android:allowBackup="true"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/Theme.17B91A1261">
    <activity android:name=".Intent2"></activity>
    <activity android:name=".MainActivity">
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />

        <category android:name="android.intent.category.LAUNCHER" />
      </intent-filter>
    </activity>
  </application>

</manifest>
```

build.gradle (module app) :

```
plugins {
  id 'com.android.application'
}

android {
  compileSdkVersion 30

  defaultConfig {
    applicationId "com.example.a17b91a1261"
    minSdkVersion 22
    targetSdkVersion 30
    versionCode 1
    versionName "1.0"

    testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"
  }

  buildTypes {
    release {
      minifyEnabled false
      proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-
rules.pro'
    }
  }
  compileOptions {
    sourceCompatibility JavaVersion.VERSION_1_8
    targetCompatibility JavaVersion.VERSION_1_8
```

```
  }
}

dependencies {
  implementation 'com.android.volley:volley:1.1.1'
  implementation 'com.github.bumptech.glide:glide:4.12.0'
  annotationProcessor 'com.github.bumptech.glide:compiler:4.12.0'
  implementation 'androidx.appcompat:appcompat:1.2.0'
  implementation 'com.google.android.material:material:1.2.1'
  implementation 'androidx.constraintlayout:constraintlayout:2.0.4'
  testImplementation 'junit:junit:4.+'
  androidTestImplementation 'androidx.test.ext:junit:1.1.2'
  androidTestImplementation 'androidx.test.espresso:espresso-core:3.3.0'
}
```

Output:



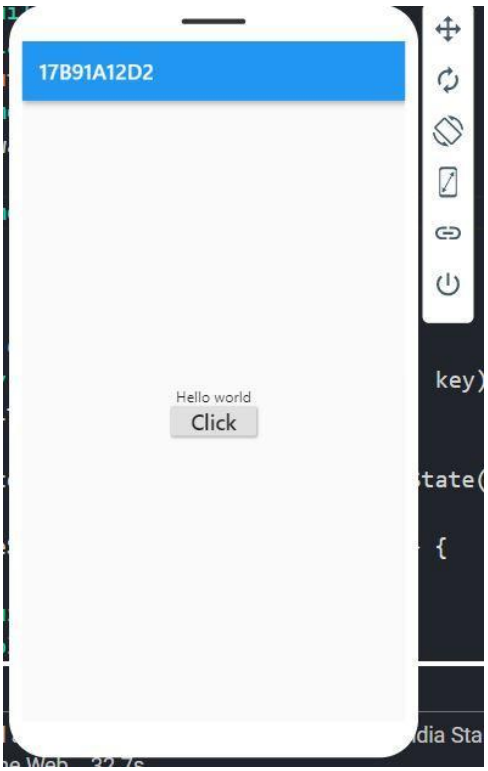
11.Introduction to Flutter SDK, Write a hello world application using dart language

Code:

```
import 'package:flutter/material.dart';

void main() {
  runApp(MyApp());
}
class MyApp extends StatelessWidget {
  // This widget is the root of your application.
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter Demo',
      theme: ThemeData(
        primarySwatch: Colors.blue,
      ),
      home: MyHomePage(title: '17B91A12D9'),
    );
  }
```

```
}
class MyHomePage extends StatefulWidget {
  MyHomePage({Key key, this.title}) : super(key: key);
  final String title;
  @override
  _MyHomePageState createState() => _MyHomePageState();
}
class _MyHomePageState extends State<MyHomePage> {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(

        title: Text(widget.title),
      ),
      body: Center(
        child: Column(

          mainAxisAlignment: MainAxisAlignment.center,
          children: <Widget>[
            Text(
              'Hello world',
            ),

            RaisedButton(
              onPressed: () {},
              child: const Text('Click', style: TextStyle(fontSize: 20)),
            ),
          ],
        ),
      ),
    // This trailing comma makes auto-formatting nicer for build methods.
    );
  }
}
```

Output:



12. Write a flutter application to demonstrate any 4 widgets (ex: Text Field, Text, Button...)

Code:

```
import 'package:flutter/material.dart';

void main() {
  runApp(MyApp());
}
class MyApp extends StatelessWidget {
  // This widget is the root of your application.
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter Demo',
      theme: ThemeData(
        primarySwatch: Colors.blue,
      ),
      home: MyHomePage(title: '17B91A12D9'),
    );
  }
}
class MyHomePage extends StatefulWidget {
  MyHomePage({Key key, this.title}) : super(key: key);
  final String title;
  @override
  _MyHomePageState createState() => _MyHomePageState();
}
```

```
class _MyHomePageState extends State<MyHomePage> {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(

        title: Text(widget.title),
      ),
      body: Center(
        child: Column(

          mainAxisAlignment: MainAxisAlignment.center,
          children: <Widget>[
            Text(
              'Hello world',
            ),

            RaisedButton(
              onPressed: () {},
              child: const Text('Click', style: TextStyle(fontSize: 20)),
            ),
          ],
        ),
      ),
    // This trailing comma makes auto-formatting nicer for build methods.
    );
  }
}
```

Output: