

Important Program Statements for Practical Exam of Mobile Application Development

- 1) Write a program to place Name, Age and mobile number linearly (vertical) on the display screen using linear layout. Exp-5

Ans: activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.appcompat.widget.LinearLayoutCompat
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:orientation="vertical">
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Name"
    android:gravity="center"/>
<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="text"
    android:hint="name"/>
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Age"
    android:gravity="center"/>
<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="number"
    android:hint="age"/>
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Mobile no"
    android:gravity="center"/>
<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="number"
    android:hint="phone no"/>
</androidx.appcompat.widget.LinearLayoutCompat>
```

- 2) Write a program to display 10 students basic information in a table form using Table Layout. exp-6

ans: activitymain.xml

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

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Name" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="roll no" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="dept" />
</TableRow>
<TableRow>

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="abc" />

    <TextView
        android:id="@+id/textView5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="123" />

    <TextView
        android:id="@+id/textView6"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="comp" />
</TableRow>
<TableRow>

    <TextView
        android:id="@+id/textView7"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="def" />

    <TextView

```

```

        android:id="@+id/textView8"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="456" />

<TextView
    android:id="@+id/textView9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="comp" />
</TableRow><!--add more<TableRow>to add 10 students data-->
</TableLayout>

```

3) Write a program to accept and display personal information of the student.

Exp-7

Ans:activitymain.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:orientation="vertical">
    <TextView
        android:id="@+id/textView1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="name" />

    <EditText
        android:id="@+id/editText1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="age" />

    <EditText
        android:id="@+id/editText2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="number" />

    <TextView
        android:id="@+id/textView3"

```

```

        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="department" />

<EditText
    android:id="@+id/editText3"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    />

<Button
    android:id="@+id/button"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="submit"
    android:onClick="submit"
    />

<TextView
    android:id="@+id/textView4"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="TextView" />

<TextView
    android:id="@+id/textView5"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="TextView" />

<TextView
    android:id="@+id/textView6"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="TextView" />

</LinearLayout>

```

```

Mainactivity.java

package com.example.username;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

```

```

public class MainActivity extends AppCompatActivity {
private EditText t1;
private EditText t2;
private EditText t3;
private TextView o1;
private TextView o2;
private TextView o3;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1=findViewById(R.id.editText1);
        t2=findViewById(R.id.editText2);
        t3=findViewById(R.id.editText3);
        o1=findViewById(R.id.textView4);
        o2=findViewById(R.id.textView5);
        o3=findViewById(R.id.textView6);
    }

    public void submit(View view) {
        String name=t1.getText().toString();
        String age=t2.getText().toString();
        String dept=t3.getText().toString();
        o1.setText(name);
        o2.setText(age);
        o3.setText(dept);
    }
}

```

4) Write a program to create a first display screen of any search engine using auto Complete Text View.exp-8

Ans: Xml code

```

<?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">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter semester"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.471"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.186" />

    <AutoCompleteTextView

```

```

        android:id="@+id/autocompleteTextView"
        android:layout_width="301dp"
        android:layout_height="57dp"
        android:hint="1-6"
        android:text=" "
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.458"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.306" />

<TextView
    android:id="@+id/textView"
    android:layout_width="222dp"
    android:layout_height="288dp"
    android:text="TextView"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.866" />

</androidx.constraintlayout.widget.ConstraintLayout>

                                Java code

package com.example.autocomplet2;
import androidx.appcompat.app.AppCompatActivity;
import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.AutoCompleteTextView;
import android.widget.Button;
import android.widget.TextView;
import java.lang.reflect.Array;
public class MainActivity extends AppCompatActivity {
    String[] sem={"first","second","third","fourth","fifth","sixth"};
    AutoCompleteTextView tv;
    TextView t1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ArrayAdapter<String> adapter=new
ArrayAdapter<String>(this,android.R.layout.select_dialog_item,sem);
        tv=findViewById(R.id.autocompleteTextView);
        t1=findViewById(R.id.textView);
        tv.setThreshold(1);
        tv.setAdapter(adapter);
        tv.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> adapterView, View view,
int i, long l) {
                if(tv.getText().toString().equals("sixth")) {

```

```

        t1.setText("MAD\nMAN\nETI\nPWP\nNIS\nCPP");
        t1.setTextSize(18);
        tv.setTextColor(Color.RED);
    }
}
});
}
}

```

5) Write a program to create a toggle button to display on/off functionality on the display screen.exp-9

Ans:activitymain.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">

    <ToggleButton
        android:id="@+id/toggleButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="ToggleButton"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        android:textOff="off"
        android:textOn="on"
        android:onClick="clicked"/>

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Toggle button "
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.279" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Mainactivity.java

```

package com.example.togglebutton;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;

```

```

import android.widget.TextView;
import android.widget.ToggleButton;

public class MainActivity extends AppCompatActivity {
    TextView t1;
    ToggleButton tb;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1=findViewById(R.id.textView);
        tb=findViewById(R.id.toggleButton);
    }

    public void clicked(View view) {
        if (tb.isChecked()) {
            t1.setText("toggle button is on ");
        }
        else {
            t1.setText("toggle button is off");
        }
    }
}

```

6) Write a program to create a login form for a social networking site.exp-10

Ans: Xml code

```

<?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">

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:onClick="login"
        android:text="Login"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.38"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editText2"
        app:layout_constraintVertical_bias="0.222" />

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

```



```

        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.278"
        app:layout_constraintStart_toEndOf="@+id/textView"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.297" />

<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Password"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.103"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView"
    app:layout_constraintVertical_bias="0.146" />

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Username"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.104"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.304" />

<EditText
    android:id="@+id/editText2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPassword"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.292"
    app:layout_constraintStart_toEndOf="@+id/textView2"
    app:layout_constraintTop_toBottomOf="@+id/editText"
    app:layout_constraintVertical_bias="0.102" />

<TextView
    android:id="@+id/textView3"
    android:layout_width="293dp"
    android:layout_height="44dp"

    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.177"

```

```

app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/button"
app:layout_constraintVertical_bias="0.26" />

```

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

Java code

```

package com.example.loginpl;
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

    }

    public void login(View view) {

        Button b1=(Button) findViewById(R.id.button);

        EditText u1=(EditText) findViewById(R.id.editText);

        EditText p1=(EditText) findViewById(R.id.editText2);

        TextView t1=(TextView) findViewById(R.id.textView3);

        String username="aj";

        String Password="123";

        String input1=u1.getText().toString();

```

```

String input2=p1.getText().toString();

if (username.equals(input1) && Password.equals(input2))
{
    t1.setText("Login successfully...");
}

else
{
    t1.setText("login unsuccessful.");
}

}
}

```

7) Write a program to show five checkboxes and toast selected checkboxes.exp-11

Ans: Xml code

```

<?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">

    <TextView
        android:id="@+id/textView"
        android:layout_width="257dp"
        android:layout_height="33dp"
        android:textAlignment="center"
        android:text="Select Language"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.11" />

    <CheckBox
        android:id="@+id/checkBox"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Java"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toStartOf="@+id/checkBox2"

```

```

app:layout_constraintHorizontal_bias="0.645"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView"
app:layout_constraintVertical_bias="0.069" />

<CheckBox
    android:id="@+id/checkbox2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Python"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.655"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView"
    app:layout_constraintVertical_bias="0.069" />

<CheckBox
    android:id="@+id/checkbox3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text=".Net"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.286"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView"
    app:layout_constraintVertical_bias="0.215" />

<CheckBox
    android:id="@+id/checkbox4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="C"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.591"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView"
    app:layout_constraintVertical_bias="0.215" />

<CheckBox
    android:id="@+id/checkbox5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Html"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.468"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView"
    app:layout_constraintVertical_bias="0.348" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java code

```

package com.example.checkbox;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.CheckBox;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    CheckBox cb1, cb2, cb3, cb4, cb5;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        cb1=findViewById(R.id.checkbox);

        cb2=findViewById(R.id.checkbox2);

        cb3=findViewById(R.id.checkbox3);

        cb4=findViewById(R.id.checkbox4);

        cb5=findViewById(R.id.checkbox5);

        cb1.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View view) {

                if (cb1.isChecked()) {

                    Toast.makeText(MainActivity.this, cb1.getText().toString()+" is

```

```

checked", Toast.LENGTH_SHORT).show();

    }

    else

    {

Toast.makeText(MainActivity.this, cb1.getText().toString()+" is
unchecked", Toast.LENGTH_SHORT).show();

    }

    }

});

cb2.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View view) {

        if (cb2.isChecked()){

Toast.makeText(MainActivity.this, cb2.getText().toString()+" is
checked", Toast.LENGTH_SHORT).show();

        }

        else

        {

Toast.makeText(MainActivity.this, cb2.getText().toString()+" is
unchecked", Toast.LENGTH_SHORT).show();

        }

    }

});

cb3.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View view) {

        if (cb3.isChecked()){

```

```

Toast.makeText(MainActivity.this,cb3.getText().toString()+" is
checked",Toast.LENGTH_SHORT).show();

    }

    else

    {

Toast.makeText(MainActivity.this,cb3.getText().toString()+" is
unchecked",Toast.LENGTH_SHORT).show();

    }

    }

});

cb4.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View view) {

        if (cb4.isChecked()){

Toast.makeText(MainActivity.this,cb4.getText().toString()+" is
checked",Toast.LENGTH_SHORT).show();

        }

        else

        {

Toast.makeText(MainActivity.this,cb4.getText().toString()+" is
unchecked",Toast.LENGTH_SHORT).show();

        }

    }

});

cb5.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View view) {

```

```

        if (cb5.isChecked()) {

Toast.makeText(MainActivity.this, cb5.getText().toString() + " is
checked", Toast.LENGTH_SHORT).show();

        }

        else

        {

Toast.makeText(MainActivity.this, cb5.getText().toString() + " is
unchecked", Toast.LENGTH_SHORT).show();

        }

    }

});

}

}

```

8) Write a program to show functionality of radio group and radio buttons to toast selected gender.exp-12

Ans: Xml code

```

<?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">

<TextView
    android:id="@+id/textView"
    android:layout_width="248dp"
    android:layout_height="41dp"
    android:text="Single radio buttons"
    android:textAlignment="center"
    android:textColor="#9C27B0"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.496"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.091" />

```



```

<RadioButton
    android:id="@+id/radioButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="RadioButton1"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.27"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.218" />

<RadioButton
    android:id="@+id/radioButton2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="RadioButton2"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.27"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.31" />

<RadioGroup
    android:id="@+id/radioGroup"
    android:layout_width="258dp"
    android:layout_height="135dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.516"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.545">

    <TextView
        android:id="@+id/textView2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Radio button inside radiogroup"
        android:textAlignment="center"
        android:textColor="#9C27B0" />

    <RadioButton
        android:id="@+id/radioButton3"
        android:layout_width="match_parent"
        android:layout_height="48dp"
        android:text="male" />

    <RadioButton
        android:id="@+id/radioButton4"
        android:layout_width="match_parent"
        android:layout_height="46dp"

```

```

        android:text="female" />
    </RadioGroup>

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="show selected"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.781" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Java code

```

package com.example.radiobutton;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.RadioButton;

import android.widget.RadioGroup;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    RadioButton rb1,rb2,rb3;

    RadioGroup rg1;

    Button b1;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        rb1=findViewById(R.id.radioButton);

```

```

        rb2=findViewById(R.id.radioButton2);

        rg1=findViewById(R.id.radioGroup);

        b1=findViewById(R.id.button);

        b1.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View view) {

                if (rb1.isChecked()){

                    Toast.makeText(MainActivity.this,rb1.getText().toString()+" is
                    clicked",Toast.LENGTH_SHORT).show();

                }

                else if (rb2.isChecked()){

                    Toast.makeText(MainActivity.this,rb2.getText().toString()+" is
                    clicked",Toast.LENGTH_SHORT).show();

                }

                int id=rg1.getCheckedRadioButtonId();

                rb3=findViewById(id);

                Toast.makeText(MainActivity.this,rb3.getText().toString()+" is
                clicked",Toast.LENGTH_SHORT).show();

            }

        });

    }

}

```

9) Write a program to display and image using image view and a button named as “Change Image”. Once you click on button another image should get displayed.exp-14

Ans: Xml code

```

<?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/imageView"
        android:layout_width="324dp"
        android:layout_height="339dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.609"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.104"
        app:srcCompat="@drawable/pexel" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/imageView" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java code

```

package com.example.changeimg;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;

```

```

public class MainActivity extends AppCompatActivity {

    Button b1;

    ImageView ig;

    public int count=1;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        b1=findViewById(R.id.button);

        ig=findViewById(R.id.imageView);

        b1.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View view) {

                if(count==0){

                    ig.setImageResource(R.drawable.pexel);

                    count=1;

                }

                else if (count==1) {

                    ig.setImageResource(R.drawable.img2);

                    count=0;

                }

            }

        });

    }

}

```

10) Write a program to display 15 buttons using grid view.exp-14

Ans: Xml code

Activity_main

```
<?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">

    <GridView
        android:id="@+id/gridview"
        android:numColumns="3"
        android:layout_width="fill_parent"
        android:layout_height="fill_parent"
        android:horizontalSpacing="20dp"
        android:verticalSpacing="20dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" >

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

Gridview.xml

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

<Button

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

    android:id="@+id/button"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="Button"

/>
```

Java code

```
package com.example.buttons15gridviewpg73p3;

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

```

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.AdapterView.OnItemClickListener;

import android.widget.ArrayAdapter;

import android.widget.Button;

import android.widget.GridView;

import android.widget.TextView;

import android.widget.Toast;


public class MainActivity extends AppCompatActivity {

    String
    buttons[]={ "1", "2", "3", "4", "5", "6", "7", "8", "9", "10", "11", "12", "13", "14", "15"};

    GridView gv;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        ArrayAdapter adapter=new ArrayAdapter<String>
        (>(this,R.layout.gridview,buttons);

        gv=findViewById(R.id.gridview);

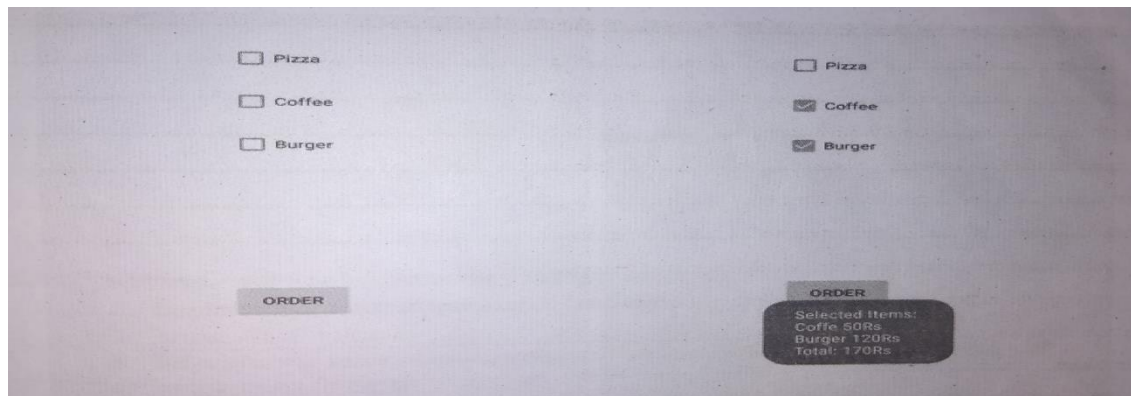
        gv.setAdapter(adapter);

    }

}

```

- 11) Write a program to display three checkboxes and one button named "Order" as shown below. Once you click on button it should toast different selected checkboxes along with items individual and total price.exp-15**



Ans: Xml code

```
<?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">

<CheckBox
    android:id="@+id/checkBox1"
    android:layout_width="232dp"
    android:layout_height="56dp"
    android:text="Pizza"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.469"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.236" />

<CheckBox
    android:id="@+id/checkBox2"
    android:layout_width="232dp"
    android:layout_height="56dp"
    android:text="Coffee"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.469"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.37" />

<CheckBox
    android:id="@+id/checkBox3"
    android:layout_width="232dp"
    android:layout_height="56dp"
    android:text="Burger"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.469"
```



```

        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.485" />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="ORDER"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.781" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java code

```

package com.example.threecheckboxtoastpg78p1;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    CheckBox cb1,cb2,cb3;
    Button b1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        cb1=findViewById(R.id.checkBox1);
        cb2=findViewById(R.id.checkBox2);
        cb3=findViewById(R.id.checkBox3);
        b1=findViewById(R.id.button);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                int total=0;
                StringBuilder result=new StringBuilder();
                result.append("selected items:");
                if(cb1.isChecked()){
                    result.append("\nPizza 100Rs");
                    total+=100;
                }
            }
        });
    }
}

```

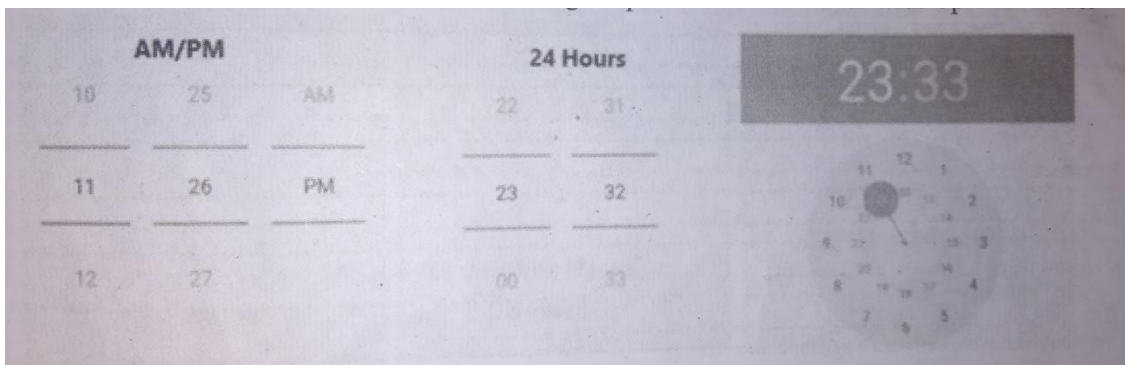
```

    }
    if (cb2.isChecked()) {
        result.append("\nCoffe 50Rs");
        total+=50;
    }
    if (cb3.isChecked()) {
        result.append("\nBurger 120Rs");
        total+=120;
    }
    result.append("\nTotal: "+total+"Rs");

    Toast.makeText(getApplicationContext(), result, Toast.LENGTH_SHORT)
        .show();
    }
    });
}
}

```

12) Write a program to display following output. Use Time Picker with Spinner mode.exp-16



Ans:activity_main.xml

```

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

    <TimePicker
        android:id="@+id/timePicker"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="80dp"
        android:timePickerMode="spinner"/>

```

```

<TimePicker
    android:id="@+id/timePicker2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="80dp"
    android:layout_marginTop="160dp"
    android:timePickerMode="spinner"/>

<TimePicker
    android:id="@+id/timePicker3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="360dp" />
</RelativeLayout>

MainActivity.java
package com.example.timepicker;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.TimePicker;

public class MainActivity extends AppCompatActivity {

    TimePicker t1,t2,t3;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        t1=(TimePicker) findViewById(R.id.timePicker);

        t2=(TimePicker) findViewById(R.id.timePicker2);

        t3=(TimePicker) findViewById(R.id.timePicker3);

        t1.setIs24HourView(true);

        t2.setIs24HourView(false);

        t3.setIs24HourView(true);

    }

}

```

13) Write a program to create a Hello World activity using all lifecycles methods to display messages using Log.d.exp-17

```

Ans: <?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">

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

</androidx.constraintlayout.widget.ConstraintLayout>

```

Java code

```

package com.example.activitylifecyclelogpg91p1;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.util.Log;

public class MainActivity extends AppCompatActivity {

    public String tag="application is: ";

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        Log.d(tag, "Created");

    }
}

```

```
@Override  
  
protected void onStart() {  
    super.onStart();  
    Log.d(tag, "Started");  
}
```

```
@Override  
  
protected void onResume() {  
    super.onResume();  
    Log.d(tag, "Resumed");  
}
```

```
@Override  
  
protected void onPause() {  
    super.onPause();  
    Log.d(tag, "Paused");  
}
```

```
@Override  
  
protected void onStop() {  
    super.onStop();  
    Log.d(tag, "Stoped");  
}
```

```
@Override  
  
protected void onDestroy() {
```

```

        super.onDestroy();

        Log.d(tag, "Destroyed");
    }

    @Override
    protected void onRestart() {

        super.onRestart();

        Log.d(tag, "Restarted");
    }
}

```

14) Write a program to create button “Start Dialer”. When u click on this button it should open the phone dialer.exp-18

- Ans: activity_main.xml

```

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

<RelativeLayout
    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">

    <Button

        android:id="@+id/button"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginTop="300dp"

        android:layout_marginLeft="150dp"

```

```

        android:text="Start Dialer" />

</RelativeLayout>

```

- MainActivity.java
package com.example.dialer;

```

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.net.Uri;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

public class MainActivity extends AppCompatActivity {

    Button b1;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        b1=(Button) findViewById(R.id.button);

        b1.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                Intent intent = new Intent(Intent.ACTION_DIAL);

                intent.setData(Uri.parse("tel:" + "+91

9657991378"));

                startActivity(intent);
            }
        });
    }
}

```

```

    }

    });

}

}

```

15) Create sample application with login module.(check username and password) on successful login, Change text view “login successful” and on login fail, alert user using Toast “Login Fail”.exp-27

Ans: Activitymain.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">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="LOGIN FORM"
        android:textSize="18dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.101"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.05" />

    <EditText
        android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="User-name"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.317" />

    <EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"

```



```

        android:inputType="textPassword"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.556" />

<TextView
    android:id="@+id/textView"
    android:layout_width="121dp"
    android:layout_height="21dp"
    android:text="USERNAME"
    android:textSize="18dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.341"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.225" />

<TextView
    android:id="@+id/textView2"
    android:layout_width="121dp"
    android:layout_height="21dp"
    android:text="PASSWORD"
    android:textSize="18dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.341"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.439" />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="submit"
    android:text="Button"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.742" />

</androidx.constraintlayout.widget.ConstraintLayout>

Mainactivity.java
package com.example.loginformpg143p1;

```

```

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    EditText uname,password;

    Button b1;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        uname=findViewById(R.id.editText);

        password=findViewById(R.id.editText2);

        b1=findViewById(R.id.button);

    }

    public void submit(View view) {

        if (uname.getText().toString().equals("ankur")){

            if (password.getText().toString().equals("hi123")){

                Toast.makeText(getApplicationContext(),"login
Successful",Toast.LENGTH_SHORT).show();

            }

        }

    }

}

```

```

        else {

            Toast.makeText(getApplicationContext(), "login
Unseccessful", Toast.LENGTH_SHORT).show();

        }

    }

}

}

```

- 16) Write a program to create the login form with necessary validations like length of username and password, empty text fields, count of unsuccessful login attempts. Display the login successful/unsuccessful toastmessage.exp-28

Ans: Activitymain.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">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="LOGIN FORM"
        android:textSize="18dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.182"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.057" />

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="USERNAME"
        android:textSize="18dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.187"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"

```

```

        app:layout_constraintVertical_bias="0.216" />

<EditText
    android:id="@+id/editText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="username"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.282"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.306" />

<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="PASSWORD"
    android:textSize="18dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.173"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.435" />

<EditText
    android:id="@+id/editText2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPassword"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.297"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.542" />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="SUBMIT"
    android:textSize="18dp"
    android:onClick="submit"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.188"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"

```

```

        app:layout_constraintVertical_bias="0.689" />
</androidx.constraintlayout.widget.ConstraintLayout>

Mainactivity.java
package com.example.loginvalidationspg148p1;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    EditText uname,password;

    Button b1;

    String userin,passin;

    int count;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        uname=findViewById(R.id.editText);

        password=findViewById(R.id.editText2);

    }

    public void submit(View view) {

        userin=uname.getText().toString();

```

```

    passin=password.getText().toString();

    if(!userin.isEmpty()){

        if (userin.length()>=5) {

            if (userin.equals("ankur")) {

                if (!passin.isEmpty()) {

                    if (passin.length()>=8) {

                        if (passin.equals("ankur2000")) {

                            count+=1;

                            Toast.makeText(getApplicationContext(),"Login sccessful\n after number of
                            attempts:"+count,Toast.LENGTH_SHORT).show();

                        }

                    } else {

                        count+=1;

                        Toast.makeText(getApplicationContext(),"Login unsccessful\ninvalid
                        password\n number of attempts:"+count,Toast.LENGTH_SHORT).show();

                    }

                } else {

                    count+=1;

                    Toast.makeText(getApplicationContext(),"Login
                    unsccessful\npassword must be atleast 8 length\n number of
                    attempts:"+count,Toast.LENGTH_SHORT).show();

                }

            }

        } else {

            count+=1;

            Toast.makeText(getApplicationContext(),"Login
            unsccessful\nenter password\n number of
            attempts:"+count,Toast.LENGTH_SHORT).show();

```

```

        }

    }

    else {

        count+=1;

        Toast.makeText(getApplicationContext(),"Login
unsuccessful\nenter valid username\n number of
attempts:"+count,Toast.LENGTH_SHORT).show();

    }

}

    else {

        count+=1;

        Toast.makeText(getApplicationContext(),"Login
unsuccessful\nuser name must be atleast 5 length\n number of
attempts:"+count,Toast.LENGTH_SHORT).show();

    }

}

    else {

        count+=1;

        Toast.makeText(getApplicationContext(),"Login
unsuccessful\nenter username\n number of
attempts:"+count,Toast.LENGTH_SHORT).show();

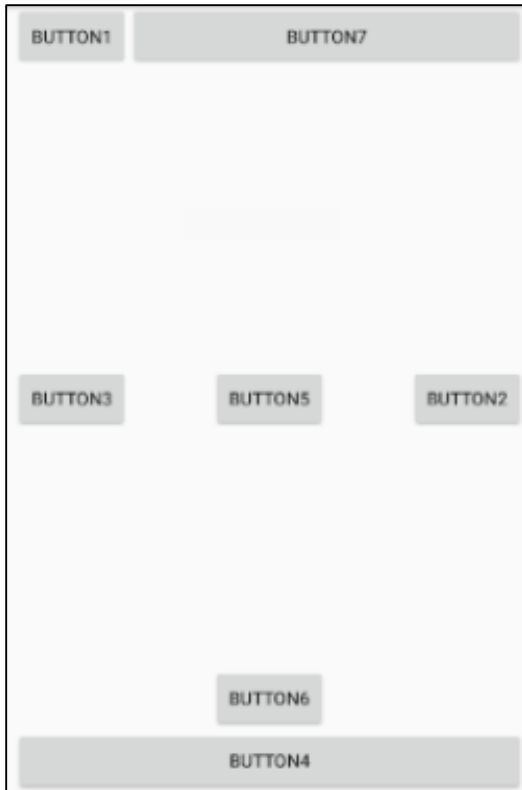
    }

}

}

```

17) Write a program to display following output using 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"
```



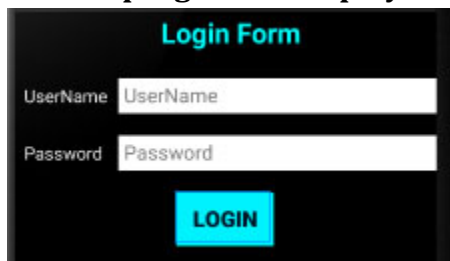
```

        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>

```

18) Write a program to display following output using Table layout.



The screenshot shows a login form titled "Login Form" in red text. It has a black background. There are two input fields: "UserName" and "Password", both with light blue borders and light blue text. Below the "Password" field is a red "LOGIN" button with white text.

- **activity_main.xml**

```

<TableLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#000"
    android:orientation="vertical"
    android:stretchColumns="1">

    <TableRow android:padding="5dip">

        <TextView
            android:layout_height="wrap_content"
            android:layout_marginBottom="20dp"
            android:layout_span="2"
            android:gravity="center_horizontal"
            android:text="@string/loginForm"
            android:textColor="#0ff"
            android:textSize="25sp"
            android:textStyle="bold" />
    </TableRow>

    <TableRow>

        <TextView
            android:layout_height="wrap_content"
            android:layout_column="0"
            android:layout_marginLeft="10dp"
            android:text="@string/userName"
            android:textColor="#fff"
            android:textSize="16sp" />

        <EditText
            android:id="@+id/userName"
            android:layout_height="wrap_content"
            android:layout_column="1"
            android:layout_marginLeft="10dp"
            android:background="#fff"
            android:hint="@string/userName"
            android:padding="5dp"
            android:textColor="#000" />
    </TableRow>

    <TableRow>

        <TextView

```

```

        android:layout_height="wrap_content"
        android:layout_column="0"
        android:layout_marginLeft="10dp"
        android:layout_marginTop="20dp"
        android:text="@string/password"
        android:textColor="#fff"
        android:textSize="16sp" />

<EditText
    android:id="@+id/password"
    android:layout_height="wrap_content"
    android:layout_column="1"
    android:layout_marginLeft="10dp"
    android:layout_marginTop="20dp"
    android:background="#fff"
    android:hint="@string/password"
    android:padding="5dp"
    android:textColor="#000" />
</TableRow>

<TableRow android:layout_marginTop="20dp">

    <Button
        android:id="@+id/loginBtn"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_span="2"
        android:background="#0ff"
        android:text="@string/login"
        android:textColor="#000"
        android:textSize="20sp"
        android:textStyle="bold" />
    </TableRow>
</TableLayout>

```

19) Write a program to display following output using 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="fill_parent"
    android:layout_height="fill_parent" >

    <Button
        android:id="@+id/btnButton1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button 1"/>

    <Button
        android:id="@+id/btnButton2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button 2"
        android:layout_toRightOf="@+id/btnButton1"/>

    <Button
        android:id="@+id/btnButton3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button 3"
        android:layout_below="@+id/btnButton1"/>
```

```

<TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/btnButton3"
    android:layout_marginTop="94dp"
    android:text="User :"
    android:textAppearance="?android:attr/textAppearanceLarge" />

<EditText
    android:id="@+id/editText1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentRight="true"
    android:layout_alignTop="@+id/textView1"
    android:layout_toRightOf="@+id/btnButton3" />

<Button
    android:id="@+id/btnSubmit"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentRight="true"
    android:layout_below="@+id/editText1"
    android:text="Submit" />

</RelativeLayout>

```