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</pre>
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"</pre>
```

```
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
```

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"</pre>
    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</pre>
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 semister"
        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=\overline{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.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</pre>
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</pre>
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.loginp1;
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 unsuccessfull.");
}
```

7) Write a program to show five checkboxes and toast selected checkboxes.exp11

```
Ans: Xml code
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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) {
```

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</pre>
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" />
```

```
< Radio Button
    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" />
< Radio Button
    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" />
    < Radio Button
        android:id="@+id/radioButton3"
        android:layout width="match parent"
        android:layout height="48dp"
        android:text="male" />
    < Radio Button
        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</pre>
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</pre>
        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</pre>
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.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","1
5"};
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



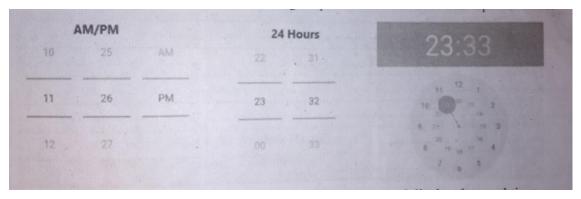
Ans: Xml code

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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_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</pre>
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

```
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</pre>
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();
            }
```

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</pre>
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"
```

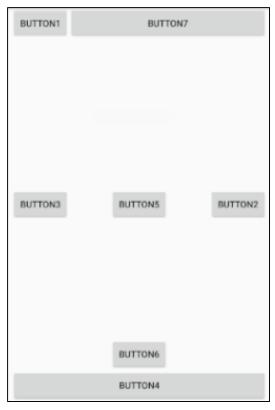
```
app:layout constraintVertical bias="0.216" />
<EditText
   android:id="@+id/editText"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:ems="10"
    android:hint="username"
    android:inputType="textPersonName"
    app:layout constraintBottom toBottomOf="parent"
    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
unsccessful\nenter valid username\n number of
attempts:"+count, Toast.LENGTH SHORT) .show();
            }
            else {
                count+=1;
                Toast.makeText(getApplicationContext(),"Login
unsccessful\nuser name must be atleast 5 length\n number of
attempts:"+count, Toast.LENGTH SHORT) .show();
            }
        }
        else {
            count+=1;
            Toast.makeText(getApplicationContext(),"Login
unsccessful\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/andr</pre>
oid"
    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" />
   <But.ton
        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.

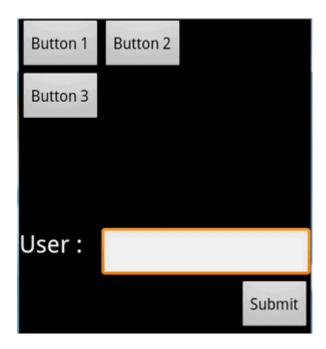


activity main.xml

```
<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>
```