

Practical No:01

A) Create a Simple Application Which Send —Hello! message from one activity to another with help of Button (Use Intent).

Solution:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button"
        android:onClick="start"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.slip1a;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main); }
    public void start(View view) {
```

```
Intent i=new Intent(MainActivity.this,MainActivity2.class);
i.putExtra("msg","hello"); startActivity(i);}}
```

activity_main2.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=".MainActivity2">
    <TextView
        android:id="@+id/textView"
        android:layout_width="101dp"
        android:layout_height="31dp"
        android:text="TextView"
        android:textSize="30dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity2.java

```
package com.example.slip1a;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;
public class MainActivity2 extends AppCompatActivity {
    TextView t1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        t1=(TextView) findViewById(R.id.textView);
        Intent i=getIntent();
        String s=i.getStringExtra("msg");
        t1.setText(s); }}
```

Practical No:02

A) Create a Simple Application Which demonstrate Life Cycle of Activity. [15 M]

Solution:

Main_Activity

```
package com.example.slip2;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.Toast;public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    @Override
    protected void onStart() {
        super.onStart();
        Toast.makeText(this, "on start method is called", Toast.LENGTH_SHORT).show();
    }
    @Override
    protected void onResume() {
        super.onResume();
        Toast.makeText(this, "on RESUME method is called", Toast.LENGTH_SHORT).show();
    }
    @Override
    protected void onPause() {
        super.onPause();
        Toast.makeText(this, "on Pause method is called", Toast.LENGTH_SHORT).show();
    }
    @Override
    protected void onStop() {
        super.onStop();
        Toast.makeText(this, "Stop", Toast.LENGTH_SHORT).show();
    }
    @Override
    protected void onStop() {
        super.onStop();
        Toast.makeText(this, "Stop", Toast.LENGTH_SHORT).show(); }
    @Override
    protected void onDestroy()    {} }
```

Practical No:03

A) Create a Simple Application, which read a positive number from the user and display its factorial value in another activity.

Solution:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <EditText
        android:id="@+id/no"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="580dp"
        android:ems="10"
        android:hint="Enter no"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="420dp"
        android:text="Calculate"
        android:onClick="fact"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.slip3a;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    EditText e1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1=(EditText) findViewById(R.id.no);
    }

    public void fact(View view) {
        String str=e1.getText().toString();
        Intent i=new Intent(MainActivity.this,SecondActivity.class);
        i.putExtra("no",str);
        startActivity(i);
    }
}
```

activity_main2.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=".SecondActivity">
```

```
<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="512dp"
    android:text="TextView"
    android:textSize="30dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity2.java

```
package com.example.slip3a;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.widget.EditText;
import android.widget.TextView;

public class SecondActivity extends AppCompatActivity {
    TextView t1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        t1=(TextView) findViewById(R.id.textView3);
        Intent i=getIntent();
        int a=Integer.parseInt(i.getStringExtra("no"));
        int fact=1;
        for(int j=1;j<=a;j++)
        {
            fact=fact*j;
        }
        t1.setText("factorial is" +fact);
    }
}
```

Practical No:04

A) Create an Android App, it reads the Students Details (Name, Surname, Class, Gender, Hobbies, Marks) and Display the all information in another activity in table format on click of Submit button

Solution:

activity_main.xml

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

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical"
        tools:layout_editor_absoluteX="16dp"
        tools:layout_editor_absoluteY="141dp">

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

        <EditText
            android:id="@+id/Surname"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="textPersonName"
            android:hint="Enter Surname" />
```

```
<EditText
    android:id="@+id/Marks"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:hint="Enter Marks" />

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

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

<RadioGroup
    android:id="@+id/rg"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <RadioButton
        android:id="@+id/r1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Male" />

    <RadioButton
        android:id="@+id/r2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Female" />
```



```

        <Button
            android:id="@+id/button2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Submit"
            android:onClick="submit"/>
    </RadioGroup>

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

```

MainActivity.java

```

package com.example.slip4a;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    EditText n1,s1,m1,c1,h1;
    RadioButton r1;
    RadioGroup rg;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        n1=(EditText) findViewById(R.id.Name);
        s1=(EditText) findViewById(R.id.Surname);
        m1=(EditText) findViewById(R.id.Marks);
        c1=(EditText) findViewById(R.id.Class);
        h1=(EditText) findViewById(R.id.Hobbies);
        rg=(RadioGroup) findViewById(R.id.rg);
    }
}

```

```

public void submit(View view) {
    String str1=n1.getText().toString();
    String str2=s1.getText().toString();
    String str3=m1.getText().toString();
    String str4=c1.getText().toString();
    String str5=h1.getText().toString();
    int selectedid=rg.getCheckedRadioButtonId();
    r1=(RadioButton)
    (findViewById(selectedid));
    Intent i=new Intent(MainActivity.this,second.class);
    i.putExtra("Name",str1);
    i.putExtra("Surname",str2);
    i.putExtra("Marks",str3);
    i.putExtra("Class",str4);
    i.putExtra("Hobbies",str5);
    startActivity(i);
}
}

```

activity_main2.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=".second">

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

        <TextView
            android:id="@+id/T1"
            android:layout_width="match_parent"
            android:layout_height="49dp"
            android:hint="Name" />

```

```
<TextView
    android:id="@+id/T2"
    android:layout_width="match_parent"
    android:layout_height="51dp"
    android:hint="Surname" />

<TextView
    android:id="@+id/T3"
    android:layout_width="match_parent"
    android:layout_height="53dp"
    android:hint="Marks" />

<TextView
    android:id="@+id/T4"
    android:layout_width="match_parent"
    android:layout_height="57dp"
    android:hint="Class" />

<TextView
    android:id="@+id/T5"
    android:layout_width="match_parent"
    android:layout_height="56dp"
    android:hint="Hobbies" />
</LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity2.java

```
package com.example.slip4a;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;

public class second extends AppCompatActivity {
    TextView t1,t2,t3,t4,t5,t6;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

```
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_second);
t1=(TextView) findViewById(R.id.T1);
t2=(TextView) findViewById(R.id.T2);
t3=(TextView) findViewById(R.id.T3);
t4=(TextView) findViewById(R.id.T4);
t5=(TextView) findViewById(R.id.T5);

Intent i=getIntent();
String s=i.getStringExtra("Name");
String s1=i.getStringExtra("Surname");
String s2=i.getStringExtra("Marks");
String s3=i.getStringExtra("Class");
String s4=i.getStringExtra("Hobbies");
String s5=i.getStringExtra("Gender");

t1.setText(s);
t2.setText(s1);
t3.setText(s2);
t4.setText(s3);
t5.setText(s4);
t6.setText(s5);

}
}
```

Practical No:05

A) Create an Android Application that will change color of the College Name on click of Push Button and change the font size, font style of text view using xml.

activity_main.xml

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

    <TextView
        android:id="@+id/textView"
        android:layout_width="409dp"
        android:layout_height="69dp"
        android:layout_marginTop="40dp"
        android:text="Dnyansagar Arts And Commerce collage"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <LinearLayout
        android:layout_width="387dp"
        android:layout_height="388dp"
        android:orientation="horizontal"
        tools:layout_editor_absoluteX="8dp"
        tools:layout_editor_absoluteY="342dp">

        <Button
            android:id="@+id/Button"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:onClick="red"
            android:text="RED" />
```

```
<Button
    android:id="@+id/Button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:onClick="blue"
    android:text="BLUE" />

<Button
    android:id="@+id/Button3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:onClick="green"
    android:text="GREEN" />

<Button
    android:id="@+id/Button4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:onClick="yellow"
    android:text="YELLOW" />
</LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.slip5a;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    TextView t1;
```

```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    t1=(TextView) findViewById(R.id.textView);

}

public void red(View view) {
    t1.setTextColor(Color.RED);
    t1.setTextSize(30);
}

public void blue(View view) {
    t1.setTextColor(Color.BLUE);
    t1.setTextSize(30);
}

public void green(View view) {
    t1.setTextColor(Color.GREEN);
    t1.setTextSize(30);
}

public void yellow(View view) {
    t1.setTextColor(Color.YELLOW);
    t1.setTextSize(30);
}
}
```

Practical No:06

Create an Android Application to find the factorial of a number and Display the Result on Alert Box.

Solution:

activity_main.xml

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

    <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>
```

MainActivity.java

```
package com.example.slip5b;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```


Practical No:07

Create a Simple Application that performs Arithmetic Operations. (Use constraint layout)

Solution:

activity_main.xml

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

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

        <EditText
            android:id="@+id/no1"
            android:layout_width="match_parent"
            android:layout_height="78dp"
            android:ems="10"
            android:inputType="textPersonName"
            android:text="no1" />

        <EditText
            android:id="@+id/no2"
            android:layout_width="match_parent"
            android:layout_height="64dp"
            android:ems="10"
            android:inputType="textPersonName"
            android:text="no2" />

        <Button
            android:id="@+id/button"
            android:layout_width="116dp"
            android:layout_height="wrap_content"
```

```
        android:onClick="addition"
        android:text="add" />
```

```
<Button
    android:id="@+id/button"
    android:layout_width="117dp"
    android:layout_height="wrap_content"
    android:onClick="subtraction"
    android:text="sub" />
```

```
<Button
    android:id="@+id/button"
    android:layout_width="117dp"
    android:layout_height="wrap_content"
    android:onClick="Multiplication"
    android:text="mul" />
```

```
<Button
    android:id="@+id/button"
    android:layout_width="118dp"
    android:layout_height="wrap_content"
    android:onClick="Division"
    android:text="div" />
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="match_parent"
    android:layout_height="47dp"
    android:text="TextView"
    android:textSize="30sp"/>
```

```
</LinearLayout>
```

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

MainActivity.java

```
package com.example.slip6;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
```

```
import android.widget.TextView;

import java.util.concurrent.atomic.AtomicIntegerArray;

public class MainActivity<edittext> extends AppCompatActivity {
    EditText et1,et2;
    TextView t1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        et1=(EditText)findViewById(R.id.no1);
        et2=(EditText)findViewById(R.id.no2);
        t1=(TextView) findViewById(R.id.textView);

    }

    public void additon(View view) {
        int a=Integer.parseInt(et1.getText().toString());
        int b=Integer.parseInt(et2.getText().toString());
        t1.setText("Addition is" +(a+b));
    }

    public void substratction(View view) {
        int a=Integer.parseInt(et1.getText().toString());
        int b=Integer.parseInt(et2.getText().toString());
        t1.setText("Substraction is" +(a-b));
    }

    public void Multiplication(View view) {
        int a=Integer.parseInt(et1.getText().toString());
        int b=Integer.parseInt(et2.getText().toString());
        t1.setText("multiplication is" +(a*b));
    }

    public void Division(View view) {
        int a=Integer.parseInt(et1.getText().toString());
        int b=Integer.parseInt(et2.getText().toString());
        t1.setText("Division is" +(a/b));
    }
}
```

Practical No:08

A) Create an Android Application to accept two numbers and find power and Average.

Display the result on the next activity on Button click.

Solution:

activity_main.xml

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

    <TextView
        android:id="@+id/no1"
        android:layout_width="95dp"
        android:layout_height="36dp"
        android:layout_marginBottom="628dp"
        android:hint="no1"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.654"
        app:layout_constraintStart_toStartOf="parent" />

    <TextView
        android:id="@+id/no2"
        android:layout_width="101dp"
        android:layout_height="35dp"
        android:layout_marginBottom="628dp"
        android:hint="no2"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.184"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
```

```

        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="504dp"
        android:text="power"
        android:onClick="POWER"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.656"
        app:layout_constraintStart_toStartOf="parent" />

```

<Button

```

        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="504dp"
        android:text="average"
        android:onClick="AVERAGE"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.179"
        app:layout_constraintStart_toStartOf="parent" />

```

</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

```

package com.example.slip7aa;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
    EditText m1,m2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        m1=(EditText) findViewById(R.id.no1);

```

```

        m2=(EditText) findViewById(R.id.no2);
    }
    public void POWER(View view) {
        String str1=m1.getText().toString();
        String str2=m2.getText().toString();
        Intent i=new Intent(MainActivity.this,second.class);
        i.putExtra("no1",str1);
        i.putExtra("no2",str2);
        startActivity(i);
    }
}

```

activity_main2.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=".second">

    <TextView
        android:id="@+id/t1"
        android:layout_width="147dp"
        android:layout_height="52dp"
        android:text="Text View"
        android:textSize="30dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.06"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.008" />

    <TextView
        android:id="@+id/t2"
        android:layout_width="155dp"
        android:layout_height="48dp"
        android:layout_marginBottom="672dp"

```

```
        android:text="TextView"
        android:textSize="30dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.82"
        app:layout_constraintStart_toStartOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity2.java

```
package com.example.slip7aa;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;

public class second extends AppCompatActivity {
    TextView T1,T2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        T1=(TextView) findViewById(R.id.t1);
        T2=(TextView) findViewById(R.id.t2);
        Intent i=getIntent();
        int a=Integer.parseInt(i.getStringExtra("no1"));
        int b=Integer.parseInt(i.getStringExtra("no2"));
        int p=1;
        for(int j=1;j<=a;j++)
        {
            p=p*a;
        }
        T1.setText("Power is "+p);
        int avg=1;
        for(int j=1;j<=a;j++)
        {
            avg=(a+b)/2;
        }
        T2.setText("Average is "+p);} }
```

Practical No:09

A) Create an Android application to demonstrate phone call using Implicit Intent.

Solution:

activity_main.xml

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

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

        <EditText
            android:id="@+id/no"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="textPersonName"
            android:hint="phone number" />

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

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

MainActivity.java

```
package com.example.slip8;
```



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

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

public class MainActivity extends AppCompatActivity {
    EditText num;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        num=(EditText) findViewById(R.id.no);
    }

    public void call(View view) {
        String num1=num.getText().toString();

        Intent i=new Intent(Intent.ACTION_VIEW,Uri.parse("tell:"+num1));
        startActivity(i);
    }
}
```

Practical No:10

A) Design Following Screens using Table Layout. Display the entered text using Toast.

Solution:

activity_main.xml

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

    <LinearLayout
        android:id="@+id/linearLayout"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical">

        <EditText
            android:id="@+id/fname"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:ems="10"
            android:hint="enter firtsname"
            android:inputType="textPersonName" />

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

        <EditText
            android:id="@+id/address"
            android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="enter address"
        android:inputType="textPersonName" />
    <EditText
        android:id="@+id/email"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:hint="enter email" />
    <EditText
        android:id="@+id/phoneno"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="phone" />
    <RadioGroup
        android:id="@+id/rg"
        android:layout_width="match_parent"
        android:layout_height="545dp">

        <RadioButton
            android:id="@+id/r1"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Male" />

        <RadioButton
            android:id="@+id/r2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Female" />

    </RadioGroup>

</LinearLayout>

<Button
    android:id="@+id/Button"
```

```
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="submit"
        android:onClick="submit"
        tools:layout_editor_absoluteY="276dp" />
```

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

MainActivity.java

```
package com.example.slip9a;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    EditText e1,e2,e3,e4,e5;
    RadioGroup rg;
    RadioButton rb;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1=(EditText) findViewById(R.id.fname);
        e2=(EditText) findViewById(R.id.lname);
        e3=(EditText) findViewById(R.id.address);
        e4=(EditText) findViewById(R.id.email);
        e5=(EditText) findViewById(R.id.phoneno);
    }
    public void submit(View view) {
        int rid=rg.getCheckedRadioButtonId();
        rb=(RadioButton) findViewById(rid);
        String str1=e1.getText().toString()+" "+e2.getText().toString()+"
"+e3.getText().toString()+" "+e4.getText().toString()+" "+e5.getText().toString()+"
"+rb.getText().toString();

        Toast.makeText(this,str1, Toast.LENGTH_SHORT).show();
    }
}
```

Practical No:11

A) Create an application to accept movie details like Name,Release year,Collection and display the same information

Solution:

main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    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"
    android:orientation="vertical"

    android:id="@+id/linearLayout1"
    >

    <TextView android:text="Movie details"
        android:layout_width="wrap_content"
        android:textStyle="bold"
        android:textSize="30dp"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:textColor="#0bff14"
        android:id="@+id/textView1" />

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name"
        android:id="@+id/editText1"
        android:textColorHint="#ff9aee" />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Release Year"
        android:textColorHint="#ff9aee"
        android:id="@+id/editText2" />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```
android:hint="Collection"
android:textColorHint="#ff9aee"
android:id="@+id/editText3" />
```

```
<Button
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```
    android:layout_gravity="center_horizontal"
    android:textColor="#ff1c2e"
    android:text="Click Me"
    android:id="@+id/button1"
/>
```

```
<TextView
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/textView2"
    android:textSize="20dp"
    android:textStyle="bold"
    android:layout_gravity="center_horizontal"/>
```

```
</LinearLayout>
```

Activity_main2.xml

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

```
<LinearLayout
```

```
    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=".SecondScreen"
    android:orientation="vertical">
```

```
<TextView
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Second Screen"
    android:textSize="30dp"
    android:textStyle="bold"
    android:textColor="#0bff14"
    android:layout_gravity="center_horizontal"
    android:id="@+id/textView3" />
```

```

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text=" Name"
    android:textSize="22dp"
    android:id="@+id/textView4"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text=" Year"
    android:id="@+id/textView5"
    android:textSize="25dp"/>
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Collection"
    android:textSize="22dp"
    android:id="@+id/textView6"/>
</LinearLayout>

```

main.java

```

package com.example.slip29_2;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
import android.content.Intent;

public class MainActivity extends AppCompatActivity {

    TextView txt1,txt2;
    EditText edt1,edt2,edt3;
    Button btn1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {

```

```

super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
txt1 = (TextView) findViewById(R.id.textView1);
txt2 = (TextView) findViewById(R.id.textView2);
edt1 = (EditText) findViewById(R.id.editText1);
edt2 = (EditText) findViewById(R.id.editText2);
edt3 = (EditText) findViewById(R.id.editText3);
btn1 = (Button) findViewById(R.id.button1);
btn1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Intent intent1 = new Intent(MainActivity.this, SecondScreen.class);

        intent1.putExtra("name", edt1.getText().toString());
        intent1.putExtra("year", edt2.getText().toString());
        intent1.putExtra("collection", edt3.getText().toString());
        //startActivity(intent1);

        startActivityForResult(intent1, 1);
    }
});
}
}

```

MainActivity_2.java

```

package com.example.slip29_2;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;

import android.content.Intent;

import android.widget.EditText;
import android.widget.TextView;

import android.app.Activity;

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

import android.widget.Toast;

```



```

public class SecondScreen extends AppCompatActivity {

    TextView txt5,txt6,txt4;
    EditText edt4;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second_screen);
        txt4=(TextView) findViewById(R.id.textView4);
        txt5 = (TextView) findViewById(R.id.textView5);
        txt6 = (TextView) findViewById(R.id.textView6);
        Intent intent2 = getIntent();

        Bundle bundle = intent2.getExtras();
        String first = bundle.getString("name");
        String last = bundle.getString("year");
        String dob = bundle.getString("collection");

        txt4.setText(": "+first.toString());
        txt5.setText(": "+last.toString());
        txt6.setText(": "+dob.toString());
    }
}

```

Practical No:12

Design Following Screens Using RadioButtons & CheckBoxes. Display the selected text using Toast.

Solution:

activity_main.xml

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

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical">
        <RadioGroup
            android:id="@+id/rg"
            android:layout_width="match_parent"
            android:layout_height="match_parent" >
            <RadioButton
                android:id="@+id/radioButton8"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:text="Fybca" />
            <RadioButton
                android:id="@+id/radioButton9"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:text="Sybca" />
            <RadioButton
                android:id="@+id/radioButton10"
                android:layout_width="match_parent"
```

```

        android:layout_height="wrap_content"
        android:text="Tybca" />

<CheckBox
    android:id="@+id/c1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="C++" />
<CheckBox
    android:id="@+id/c2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="DS USING C" />
<CheckBox
    android:id="@+id/c3"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="C#.NET" />

<CheckBox
    android:id="@+id/c4"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="JAVA" />

<Button
    android:id="@+id/button"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="submit"
    android:onClick="submit"/>
</RadioGroup>
</LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java

```

package com.example.slip12a;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;

```

```

import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    RadioGroup rg;
    RadioButton r1;
    CheckBox C1,C2,C3,C4;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        C1=(CheckBox) findViewById(R.id.c1);
        C2=(CheckBox) findViewById(R.id.c2);
        C3=(CheckBox) findViewById(R.id.c3);
        C4=(CheckBox) findViewById(R.id.c4);
        rg=(RadioGroup) findViewById(R.id.rg);
    }
    public void submit(View view) {
        int selectedid=rg.getCheckedRadioButtonId();
        r1=(RadioButton) findViewById(selectedid);
        String checkBoxchoices="";
        if(C1.isChecked())
        {
            checkBoxchoices+=C1.getText().toString()+"\t";
        }
        if(C2.isChecked()) {
            checkBoxchoices+=C2.getText().toString()+"\t ";
        }
        if(C3.isChecked()){
            checkBoxchoices+=C3.getText().toString()+"\t";
        }
        if(C4.isChecked()){
            checkBoxchoices+=C4.getText().toString()+"\t";
        }

        Toast.makeText(this,r1.getText().toString()+checkBoxchoices,
Toast.LENGTH_SHORT).show();
    }
}

```

Practical No:13

Create Android application to send email with attachment.

Solution:

activity_main.xml

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

    <EditText
        android:id="@+id/to"
        android:layout_width="381dp"
        android:layout_height="80dp"
        android:ems="10"
        android:inputType="textEmailAddress"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.228"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.023" />

    <EditText
        android:id="@+id/sub"
        android:layout_width="379dp"
        android:layout_height="81dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Name"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.273"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
```

```

        app:layout_constraintVertical_bias="0.217" />

<EditText
    android:id="@+id/msg"
    android:layout_width="356dp"
    android:layout_height="131dp"
    android:ems="10"
    android:gravity="start|top"
    android:inputType="textMultiLine"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.29"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.456" />

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

```

android.manifest

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.slip14_a">
    <uses-permission android:name="android.permission.INTERNET"></uses-permission>
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Slip14_a">

```

```

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

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

</manifest>

```

MainActivity.java

```

package com.example.slip14a;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    EditText to,sub,msg;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        to=(EditText) findViewById(R.id.to);
        sub=(EditText) findViewById(R.id.sub);
        msg=(EditText) findViewById(R.id.msg);
    }
}

public class MainActivity extends AppCompatActivity {
    EditText to,sub,msg;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        to=(EditText) findViewById(R.id.to);
        sub=(EditText) findViewById(R.id.sub);
        msg=(EditText) findViewById(R.id.msg);}}}

```

Practical No:14

Design following-add a border to an Android Layout

Solution:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:background="@color/material_dynamic_neutral40">

    <FrameLayout
        android:layout_width="294dp"
        android:layout_height="583dp"
        android:background="@color/material_dynamic_primary50"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.495"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <androidx.constraintlayout.widget.ConstraintLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent">

            <TextView
                android:id="@+id/textView5"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Hello Mansi"
                android:textSize="30dp"
                app:layout_constraintBottom_toBottomOf="parent"
                app:layout_constraintEnd_toEndOf="parent"
                app:layout_constraintStart_toStartOf="parent"
                app:layout_constraintTop_toTopOf="parent" />
            </TextView>
        </FrameLayout>
    </androidx.constraintlayout.widget.ConstraintLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```



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

MainActivity.java

```
package com.example.slip15a;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {

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

activity_main2.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=".MainActivity2">

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

MainActivity2.java

```
package com.example.slip15a;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity2 extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
    }
}
```

Practical No:15

Create following Vertical Scroll View Creation in Android.

Solution:

Activity main xml

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

    <ScrollView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:layout_editor_absoluteX="-43dp"
        tools:layout_editor_absoluteY="16dp">

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

    <Button
        android:id="@+id/button7"
        android:layout_width="408dp"
        android:layout_height="59dp"
        android:text="Button" />

    <Button
        android:id="@+id/button16"
        android:layout_width="437dp"
        android:layout_height="48dp"
        android:text="Button"

tools:layout_editor_absoluteX="3dp"
    tools:layout_editor_absoluteY="661dp" />
```

```
<Button
    android:id="@+id/button8"
    android:layout_width="408dp"
    android:layout_height="59dp"
    android:text="Button"
    tools:layout_editor_absoluteX="3dp"
    tools:layout_editor_absoluteY="602dp" />
```

```
<Button
    android:id="@+id/button9"
    android:layout_width="408dp"
    android:layout_height="59dp"
    android:text="Button"
```

```
tools:layout_editor_absoluteX="3dp"
    tools:layout_editor_absoluteY="538dp" />
```

```
<Button
    android:id="@+id/button10"
    android:layout_width="408dp"
    android:layout_height="59dp"
    android:text="Button"
    tools:layout_editor_absoluteX="6dp"
    tools:layout_editor_absoluteY="465dp" />
```

```
<Button
    android:id="@+id/button11"
    android:layout_width="408dp"
    android:layout_height="59dp"
```

```
android:text="Button"
    tools:layout_editor_absoluteX="11dp"
    tools:layout_editor_absoluteY="374dp" />
```

```
<Button
    android:id="@+id/button12"
    android:layout_width="408dp"
    android:layout_height="59dp"
    android:text="Button"
    tools:layout_editor_absoluteX="12dp"
    tools:layout_editor_absoluteY="302dp" />
```

```
<Button
    android:id="@+id/button13"
```

```

        android:layout_width="408dp"
            android:layout_height="59dp"
            android:text="Button"
            tools:layout_editor_absoluteX="3dp"
            tools:layout_editor_absoluteY="234dp" />

        <Button
            android:id="@+id/button14"
            android:layout_width="408dp"
            android:layout_height="59dp"
            android:text="Button"
            tools:layout_editor_absoluteX="9dp"
            tools:layout_editor_absoluteY="157dp" />
    <Button
        android:id="@+id/button15"
        android:layout_width="408dp"
        android:layout_height="59dp"
        android:text="Button"
        tools:layout_editor_absoluteX="3dp"
        tools:layout_editor_absoluteY="77dp" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

MAIN ACTIVITY.JAVA

```

package com.example.slip16a;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

```

Practical No:16

Create a Simple calculator. (Use Linear Layout)

Solution:

activity_main.xml

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

    <LinearLayout
        android:id="@+id/linearLayout"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical"
        tools:layout_editor_absoluteX="0dp"
        tools:layout_editor_absoluteY="0dp">

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

    </LinearLayout>

    <androidx.gridlayout.widget.GridLayout
        android:layout_width="358dp"
        android:layout_height="200dp"
        tools:layout_editor_absoluteX="15dp"
        tools:layout_editor_absoluteY="155dp">

        <Button
```

```
android:id="@+id/button"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="1"  
app:layout_column="0"  
app:layout_row="0" />
```

<Button

```
android:id="@+id/button2"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="2" />
```

<Button

```
android:id="@+id/button3"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="3" />
```

<Button

```
android:id="@+id/button4"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="+" />
```

<Button

```
android:id="@+id/button5"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="4"  
app:layout_column="0"  
app:layout_row="1" />
```

<Button

```
android:id="@+id/button6"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="5" />
```

<Button

```
android:id="@+id/button7"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="6"  
app:layout_column="2"  
app:layout_row="1" />
```

<Button

```
android:id="@+id/button8"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="-"  
app:layout_column="3"  
app:layout_row="1" />
```

<Button

```
android:id="@+id/button9"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="7"  
app:layout_column="0"  
app:layout_row="2" />
```

<Button

```
android:id="@+id/button10"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="8"  
app:layout_column="1"  
app:layout_row="2" />
```

<Button

```
android:id="@+id/button11"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="9"  
app:layout_column="2"  
app:layout_row="2" />
```

<Button

```
android:id="@+id/button12"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="*"
app:layout_column="3"
app:layout_row="2" />
```

<Button

```
android:id="@+id/button13"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="c"
app:layout_column="0"
app:layout_row="3" />
```

<Button

```
android:id="@+id/button14"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="0"
app:layout_column="1"
app:layout_row="3" />
```

<Button

```
android:id="@+id/button15"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="/"
app:layout_column="2"
app:layout_row="3" />
```

<Button

```
android:id="@+id/button16"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="="
app:layout_column="3"
app:layout_row="3" />
```

</androidx.gridlayout.widget.GridLayout>

</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

```
package com.example.slip19b;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

Practical No:17

Create the following layout using spinner

Solution:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <Spinner
        android:id="@+id/spinner"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.slip26;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
public class MainActivity extends AppCompatActivity {
    String[] country = { "India", "USA", "China", "Japan", "Other"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Spinner spin = (Spinner) findViewById(R.id.spinner);
        ArrayAdapter aa = new
ArrayAdapter(this, android.R.layout.simple_spinner_item, country);
        aa.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        spin.setAdapter(aa);
    }
}
```

Practical No:18

A) Create First Activity to accept information like Student First Name, Middle Name, Last Name, Date of birth, Address, Email ID and display all information on Second

Activity when user click on Submit button. Solution:

activity_main.xml

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

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

        <EditText
            android:id="@+id/firstname"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="textPersonName"
            android:hint="enter first name" />

        <EditText
            android:id="@+id/middlename"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="textPersonName"
            android:hint="Enter middle name" />

        <EditText
            android:id="@+id/lastname"
```

```
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:hint="enter last name" />

    <EditText
        android:id="@+id/DOB"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="enter date of birth" />

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

    <EditText
        android:id="@+id/email"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="enter email" />

    <Button
        android:id="@+id/button2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Button"
        android:onClick="submit"/>

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

MainActivity.java

```
package com.example.slip30a;
```

```

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    EditText a1,a2,a3,a4,a5,a6;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        a1=(EditText) findViewById(R.id.firstname);
        a2=(EditText) findViewById(R.id.middlename);
        a3=(EditText) findViewById(R.id.lastname);
        a4=(EditText) findViewById(R.id.DOB);
        a5=(EditText) findViewById(R.id.address);
        a6=(EditText) findViewById(R.id.email);
    }

    public void submit(View view)
    {
        String str1=a1.getText().toString();
        String str2=a2.getText().toString();
        String str3=a3.getText().toString();
        String str4=a4.getText().toString();
        String str5=a5.getText().toString();
        String str6=a6.getText().toString();
        Intent i=new Intent(MainActivity.this,second.class);
        i.putExtra("firstname",str1);
        i.putExtra("lastname",str2);
        i.putExtra("middlename",str3);
        i.putExtra("DOB",str4);
        i.putExtra("address",str5);
        i.putExtra("email",str6);
        startActivity(i);
    }
}

```

activity_main2.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=".second">

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

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

        <EditText
            android:id="@+id/editTextTextPersonName2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="textPersonName"
            android:text="Name" />

        <EditText
            android:id="@+id/editTextTextPersonName3"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="textPersonName"
            android:text="Name" />

        <EditText
```

```

        android:id="@+id/editTextDate"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="date" />

        <EditText
            android:id="@+id/editTextTextPersonName4"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="textPersonName"
            android:text="Name" />

        <EditText
            android:id="@+id/editTextTextEmailAddress"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:ems="10"
            android:inputType="textEmailAddress" />
    </LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity2.java

```

package com.example.slip30a;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class second extends AppCompatActivity {

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

```

Practical No:19

Create an Android Application that Demonstrate RatingBar and Display the number of stars selected on Toast and TextView.

Solution:

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">
    <RatingBar
        android:id="@+id/ratingBar"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        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="0.237" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Main Activity

```
package com.example.calculator;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.RatingBar;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    RatingBar rb;
    float n;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        rb=(RatingBar) findViewById(R.id.ratingBar);
        rb.setOnRatingBarChangeListener(new
RatingBar.OnRatingBarChangeListener() {
            @Override
            public void onRatingChanged(RatingBar ratingBar, float rating,
boolean fromUser) {
                n=rb.getRating();
                Toast.makeText(getApplicationContext(), "Rating is "+n,
Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```


Practical No:20

Create an Android Application that Demonstrate Switch and Toggle Button.

Solution:

activity_main.xml

```
package com.example.slip24;

import androidx.appcompat.app.AppCompatActivity;

<?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" />

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

MainActivity.java

```
import android.os.Bundle;

import android.view.View;

import android.widget.Toast;

import android.widget.ToggleButton;

public class MainActivity extends AppCompatActivity {

    ToggleButton tb;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        tb=(ToggleButton) findViewById(R.id.toggleButton);

        tb.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                if(tb.getText().toString().equals("ON"))

                    Toast.makeText(MainActivity.this, "Button clicked ON",

Toast.LENGTH_SHORT).show();

                if(tb.getText().toString().equals("OFF"))

                    Toast.makeText(MainActivity.this, "Button clicked OFF",

Toast.LENGTH_SHORT).show();

            }

        });

    }

}
```

