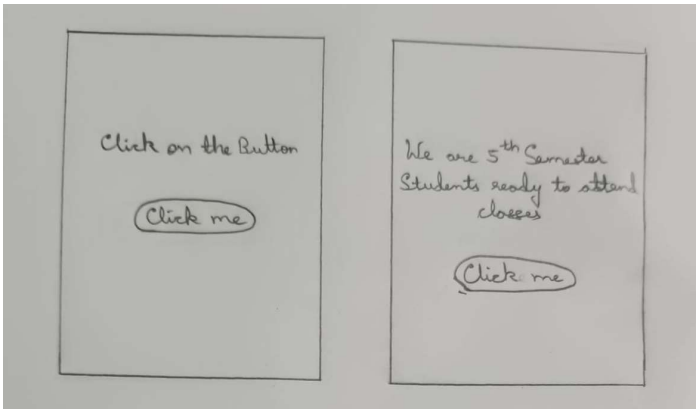
Program – 1

Create an activity and implement the Activity Lifecycle. Develop an android app to create a text and a button. Click on the button, it should display the message “We are 5th semester Students ready to attend classes”.

Layout Design:



Layout Steps:

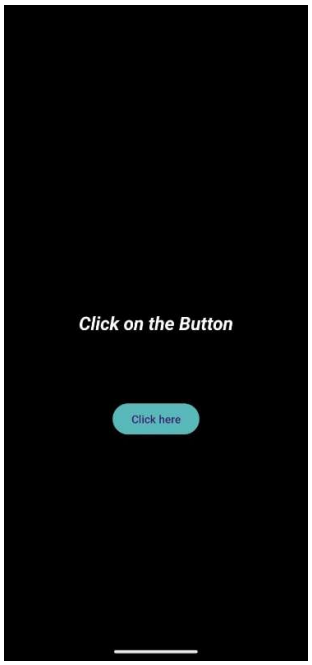
1. Requirements of the application – 1 TextView and 1 Button
2. Drag and drop TextView in layout
   - Change the id: Mention ID name
   - Change the text to display: Mention Text “Click on the Button”
   - Set the position: how you will set the position (left, right, top and bottom)
3. Repeat Step 2 for Button and change text to “Click me”

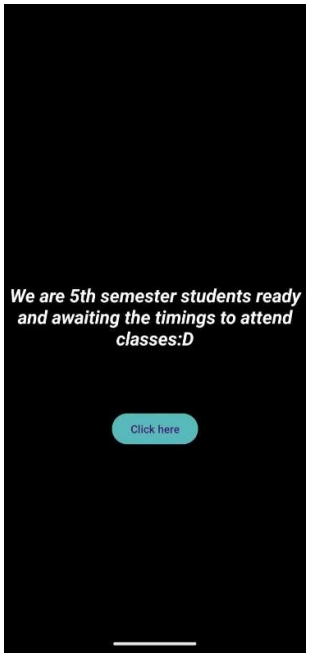
Java Code: (MainActivity.java)

```
package com.example.hello;

import android.annotation.SuppressLint;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
```

```
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {
    TextView TextBoxId;
    Button Click;
    @SuppressLint("MissingInflatedId")
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        TextBoxId = (TextView) findViewById(R.id.textbox);
        Click = (Button) findViewById(R.id.button);

        Click.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                TextBoxId.setText("We are 5th semester students ready to attend
classes:D");
            }
        });
    }
}
```

Output:

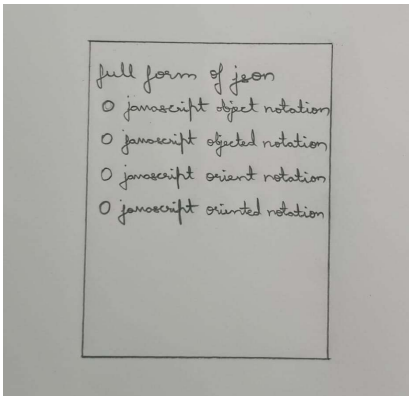




Program – 2

Create radio button and submit button which on clicking submit button should display appropriate message based on the selection.

Layout Design:



Layout Steps:

Requirements of the application - Linear layout, Radio group, 4 Radio buttons, 1 TextView,1 button.

Steps:

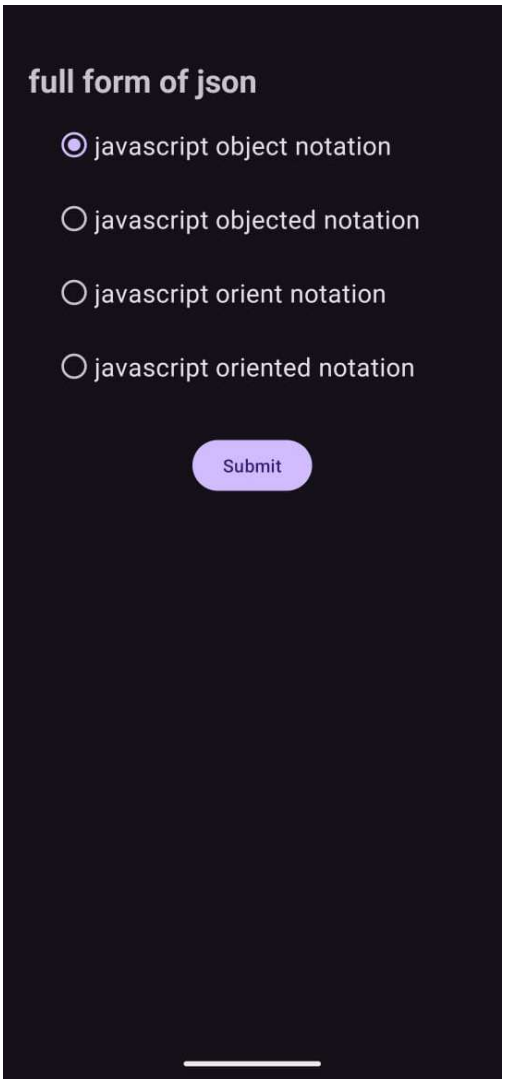
1. Drag and drop linear layout (vertical) from the layout menu.
2. Drag and drop 1st TextView in layout:
    - Change the id: textView1
    - Set its position (top, bottom, left, right).
    - Change the text to display the intended question.
3. Drag and drop RadioGroup from the button menu.
4. Drag and drop Radio Button in the RadioGroup.
5. Repeat step 4 three times to drop four radio buttons.
6. Change the id of radio buttons to option1, option2, option3, option4 respectively.
7. Change the text of radio button to string (option text) for each radio button.
8. Drag and drop a button from the button menu:
   a) Change the id to button.
   b) Change text to "Check Answer".

Java Code: (MainActivity.java)

```
package com.example.quiz;

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

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        RadioButton radiobutton1=findViewById(R.id.Option1);
        RadioButton radiobutton2=findViewById(R.id.Option2);
        RadioButton radiobutton3=findViewById(R.id.Option3);
        RadioButton radiobutton4=findViewById(R.id.Option4);

        Button button = findViewById(R.id.submit);
        button.setOnClickListener(new View.OnClickListener(){
            public void onClick(View view) {
                String selectedAns = "no Selection";
                if (radiobutton1.isChecked()){
                    selectedAns=radiobutton1.getText().toString();
                } else if (radiobutton2.isChecked()) {
                    selectedAns = radiobutton2.getText().toString();
                } else if (radiobutton3.isChecked()) {
                    selectedAns = radiobutton3.getText().toString();
                } else if (radiobutton4.isChecked()) {
                    selectedAns = radiobutton4.getText().toString();
                }
```

```
            if(selectedAns.equals("javascript object notation")){
                Toast.makeText(MainActivity.this,"Correct Answer",
Toast.LENGTH_SHORT).show();
            } else
                Toast.makeText(MainActivity.this,"Wrong Answer",
Toast.LENGTH_SHORT).show();
        }
    });
  }
}
```

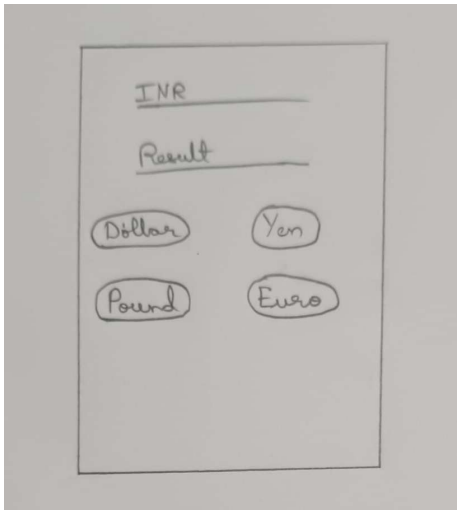
Output:



Program – 3

Develop an application for different kinds of currency converter.

Layout Design:



Layout Steps:

Requirements of the application - 2 EditText, 4 Buttons

Steps –

1. Drag and drop an EditText from the menu and change its id to inr. Change the text to display: INR and set its position (left, right, top, bottom).
2. Repeat step 1 by changing id to res and text to display: Result for 2nd EditText.
3. Drag and drop Button from the widget menu and set its position (left, right, top, bottom). Also change its id to but1 and text to Dollar.
4. Repeat step 3 three more times and change id to but2, but3, but4 and text to Euro, Pound, Yen respectively. And set the button's position.

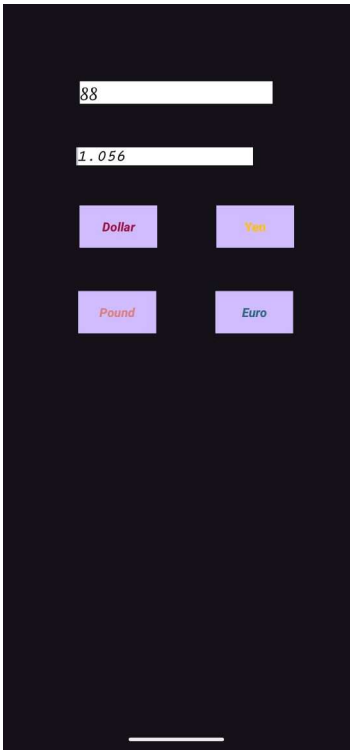
Java Code: (MainActivity.java)

```
package com.example.curconv;

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

```
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;
public class MainActivity extends AppCompatActivity {
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      EdgeToEdge.enable(this);
      setContentView(R.layout.activity_main);
ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v,
insets) -> {
         Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
         v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
         return insets;
      });
      EditText inr, r;
      Button dollar,yen,pound,euro;
      inr=(EditText) findViewById(R.id.inr);
      r=(EditText) findViewById(R.id.res);
      dollar=(Button) findViewById(R.id.but1);
      yen=(Button) findViewById(R.id.but2);
      pound=(Button) findViewById(R.id.but3);
      euro=(Button) findViewById(R.id.but4);
      dollar.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View view){
            double a=Double.parseDouble(inr.getText().toString());
            double c=0.012*a;
            r.setText(Double.toString(c));
         }
      });
      yen.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View view){
            double a=Double.parseDouble(inr.getText().toString());
            double c=a*1.73;
```

```
            r.setText(Double.toString(c));
        }
    });
    pound.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view){
            double a=Double.parseDouble(inr.getText().toString());
            double c=a*0.009;
            r.setText(Double.toString(c));
        }
    });
    euro.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view){
            double a=Double.parseDouble(inr.getText().toString());
            double c=a*0.011;
            r.setText(Double.toString(c));
        }
    });
  }
}
```

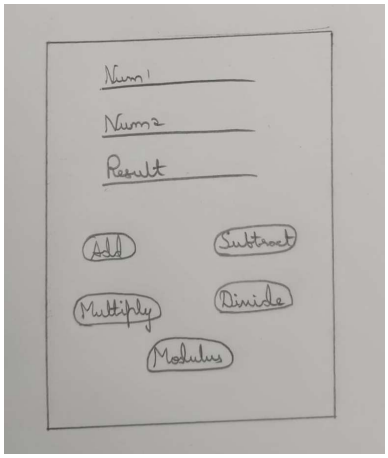
Output:



Program – 4

Develop an application for calculator.

Layout Design:



Layout Steps:

Requirements of the application – 3 EditTexts and 5 Buttons

Steps –

1) Drag and drop an EditText and set its position (top, bottom, left, right). Change its id to num1 and text to Num1.
2) Repeat step 1 for 2nd & 3rd EditText and change its id to num2, res and text to Num2, Result.
3) Drag and drop a button and set its position (top, down, left, right) and change its id to but1 and text to display Add.
4) Repeat step 3 for four times and change their ids to but2, but3, but4, but5 and text to display Subtract, Multiply, Divide, Modulus respectively.

Java Code: (MainActivity.java)

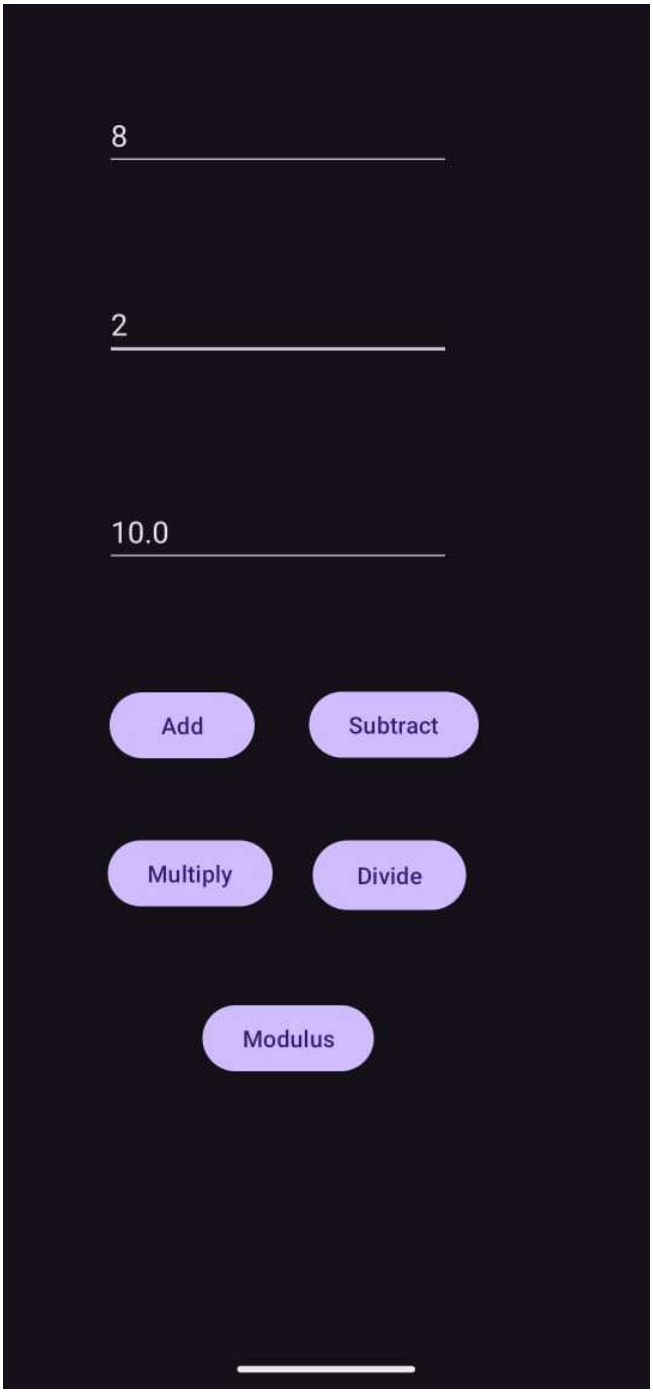
```
package com.example.demo1;

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

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
```

```
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main)
, (v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });
        EditText n1,n2,r;
        Button add,sub,mul,div,mod;
        n1=(EditText) findViewById(R.id.num1);
        n2=(EditText) findViewById(R.id.num2);
        r=(EditText) findViewById(R.id.res);
        add=(Button) findViewById(R.id.but1);
        sub=(Button) findViewById(R.id.but2);
        mul=(Button) findViewById(R.id.but3);
        div=(Button) findViewById(R.id.but4);
        mod=(Button) findViewById(R.id.but5);

        add.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view)
            {
                double a=Double.parseDouble(n1.getText().toString());
                double b =Double.parseDouble(n2.getText().toString());
                double c=a+b;
                r.setText(Double.toString(c));
            }
        });
```

```
sub.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        double a=Double.parseDouble(n1.getText().toString());
        double b =Double.parseDouble(n2.getText().toString());
        double c=a-b;
        r.setText(Double.toString(c));

    }
});

mul.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        double a=Double.parseDouble(n1.getText().toString());
        double b =Double.parseDouble(n2.getText().toString());
        double c=a*b;
        r.setText(Double.toString(c));

    }
});

div.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        double a=Double.parseDouble(n1.getText().toString());
        double b =Double.parseDouble(n2.getText().toString());
        double c=a/b;
        r.setText(Double.toString(c));

    }
});

mod.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        double a=Double.parseDouble(n1.getText().toString());
        double b =Double.parseDouble(n2.getText().toString());
        double c=a%b;
        r.setText(Double.toString(c));
```

```
            }
        });
    }
}
```

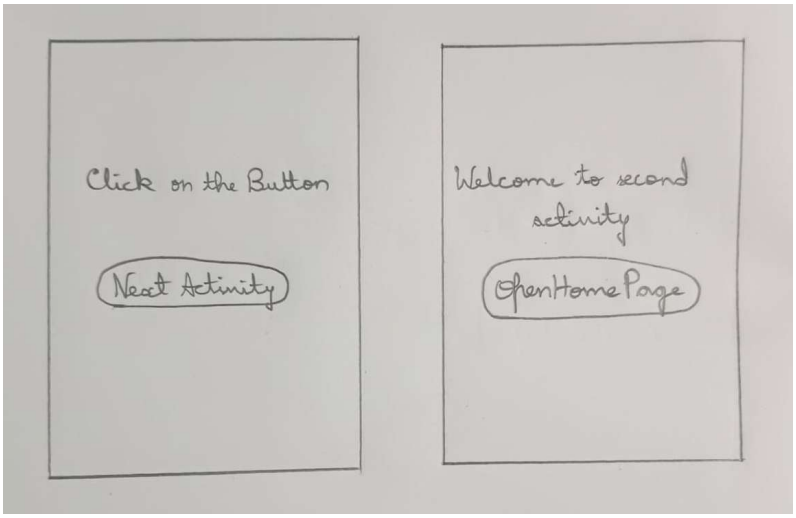
Output:



Program – 5

Review Activities, Intents, and Content Providers. Create application to Navigate from one Activity to another and open a web homepage of Android using Intent

Layout Design:



Layout Steps:

Requirements of the application – 2 TextViews and 2 Buttons

Steps –

First Page:

1) Drag and drop a TextView into the layout and set its position. Change its text to "Click on the button."
2) Drag and drop a button and set its position (left, right, top, and bottom). Change its text to "Next Activity", change its id to nextActivityButton.

Second page:

3) Drag and drop a TextView into the layout and set its position. Change its text to "Welcome to second activity", change its id to secondActivityTextView.
4) Drag and drop a button and set its position (left, right, top, bottom). Change its text to "Open Home Page", change its id to openHomePageButton.

Java Code:

File – 1 (MainActivity.java)

```
package com.example.myapplication;

import static com.example.myapplication.R.*;
import android.annotation.SuppressLint;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {
    public Button btnNextActivity;

    @SuppressLint("MissingInflatedId")
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        btnNextActivity = findViewById(R.id.nxtActButton);
        btnNextActivity.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(MainActivity.this, secondActivity.class);
                startActivity(intent);
            }
        });
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main)
, (v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
```

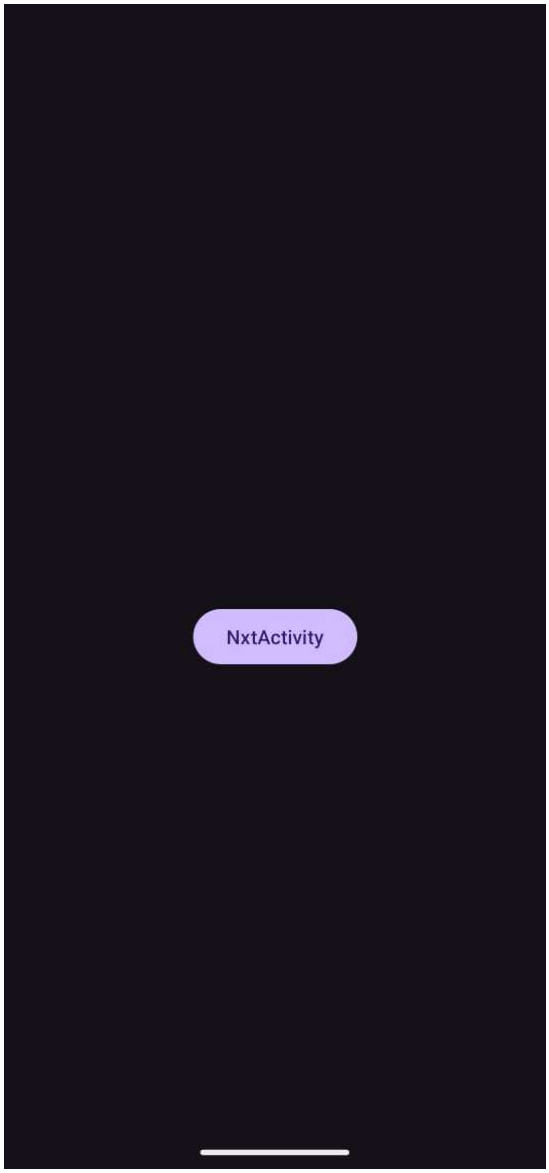
```
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });
    }
}
```

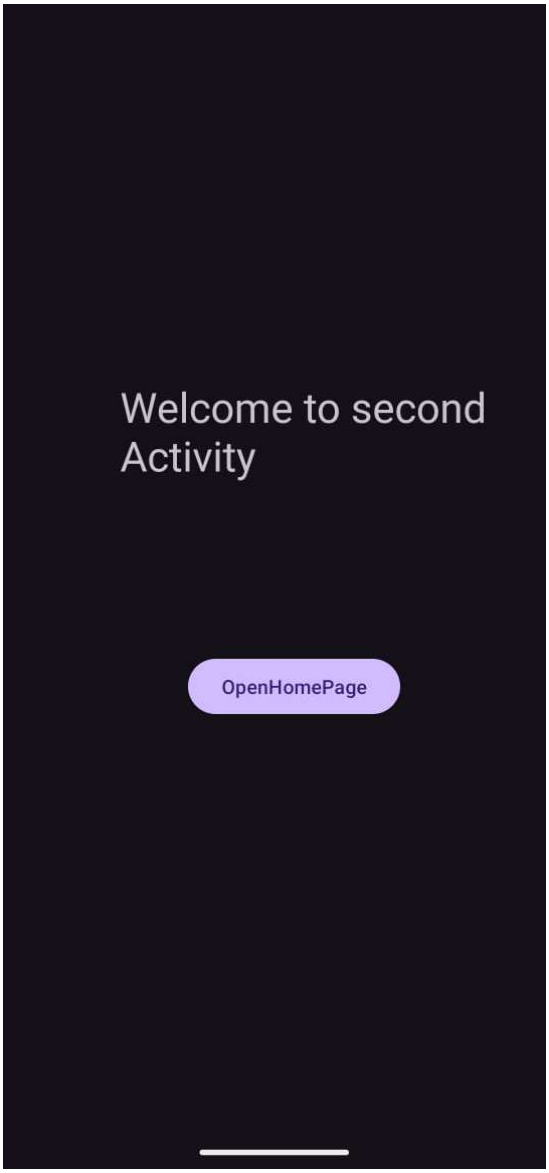
File – 2 (secondActivity.java)

```
package com.example.myapplication;

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

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class secondActivity extends AppCompatActivity {
    public Button btnOpenWebpage;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.second_main);
        btnOpenWebpage = findViewById(R.id.openHomePageButton);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main)
, (v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });
        btnOpenWebpage.setOnClickListener(new View.OnClickListener() {
            @Override
```

```
        public void onClick(View view) {
            Uri webpage = Uri.parse("https://www.android.com/");

            Intent intent = new Intent(Intent.ACTION_VIEW, webpage);
            startActivity(intent);
        }
    });
  }
}
```

Output:

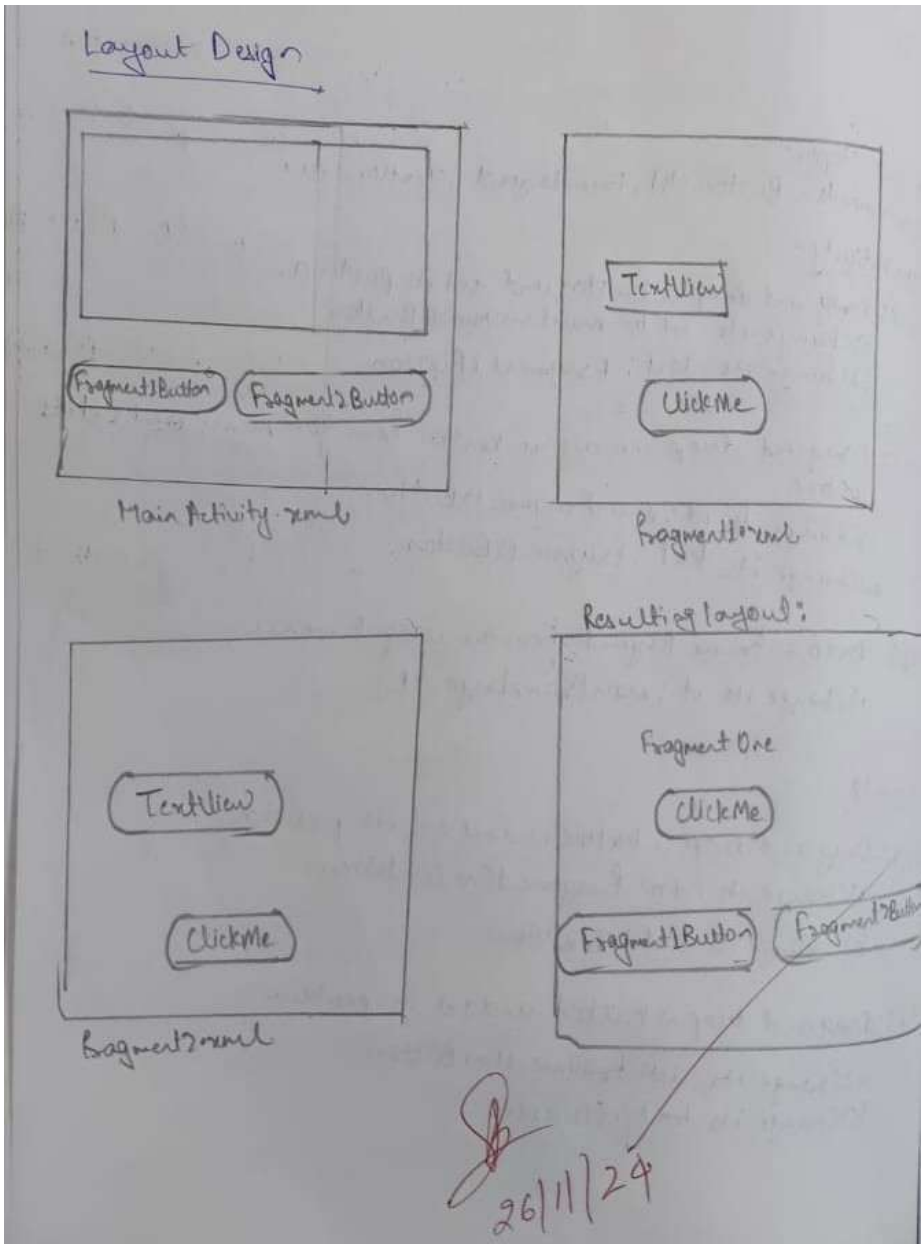




Program – 6

Develop an application for fragmentation.
Create two Fragments and load them on the click of Button's. Display two Button's and a FrameLayout in the Activity and perform setOnClickListener event on both Button's. On the click of First Button it replace the First Fragment and on click of Second Button it replace the Second Fragment with the layout (FrameLayout). Both Fragment's display a TextView and a Button and onclick of Button we display the name of the Fragment with the help of Toast.

Layout Design:



Layout Steps:

Requirements of the application – 4 Buttons, Frame Layout and 2 TextViews
Steps –

File – 1 (activity_main.xml)

1) Drag and drop a button and set its position. Change its ID to mainFragment1Button and change its text to Fragment 1 Button.
2) Drag and drop another button from the menu and set its position. Change its ID to mainFragment2Button and change its text to Fragment 2 Button.
3) Drag a FrameLayout from the widget menu and Change its ID to mainFrameLayout.

File – 2 (activity_fragment_one.xml)

4) Drag and drop a TextView and set its position. Change its ID to FragmentOneTextView and change its text to Fragment One
5) Drag and drop a button and set its position. Change its ID to FragmentOneButton and change its text to Click Me.

File – 3 (activity_fragment_two.xml)

6) Drag and drop a TextView from the palette and set its position. Change its id to FragmentTwoTextView and change its text to "Fragment Two".
7) Drag and drop a button and set its position. Change its id to FragmentTwoButton and change its text to "Click Me".

Java Code:
File – 1 (MainActivity.java)

```
package com.example.a6myapplication;

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

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentManager;
```

```
public class MainActivity extends AppCompatActivity {
    private Button btnFragment1, btnFragment2;
    private FragmentManager fragmentManager;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        btnFragment1 = findViewById(R.id.mainFragment1Button);
        btnFragment2 = findViewById(R.id.mainFragment2Button);
        fragmentManager = getSupportFragmentManager();
        btnFragment1.setOnClickListener(new View.OnClickListener() {

            @Override
            public void onClick(View view) {
                Fragment fragment = new FragmentOne();

                fragmentManager.beginTransaction().replace(R.id.mainFrameLayout1
,fragment).commit();
            }
        });

        btnFragment2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Fragment fragment = new FragmentTwo();

                fragmentManager.beginTransaction().replace(R.id.mainFrameLayout1
,fragment).commit();
            }
        });

        if(savedInstanceState == null){
            fragmentManager.beginTransaction().replace(R.id.mainFrameLayout1,n
ew FragmentOne()).commit();
        }

        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main)
, (v, insets) -> {
```

```
        Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
        v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
        return insets;
      });
   }
}
```

File – 2 (FragmentOne.java)

```
package com.example.a6myapplication;

import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentManager;

public class FragmentOne extends Fragment {
   private Button btnFragmentOne;

   @Override
   public View onCreateView(LayoutInflater inflater, ViewGroup container,
Bundle savedInstanceState){
      View view = inflater.inflate(R.layout.activity_fragment_one, container,
false);

      TextView textView = view.findViewById(R.id.fragmentOneTextView);
      textView.setText("Fragment One");
```

```
        btnFragmentOne = view.findViewById(R.id.fragmentOneButton);

        btnFragmentOne.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Toast.makeText(getActivity(), "Fragment One",
Toast.LENGTH_SHORT).show();
            }
        });
        return view;
    }
}
```

File – 3 (FragmentTwo.java)

```
package com.example.a6myapplication;

import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;
import androidx.fragment.app.Fragment;

public class FragmentTwo extends Fragment {
    private Button btnFragmentTwo;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
Bundle savedInstanceState){
        View view = inflater.inflate(R.layout.activity_fragment_two,container,
false);
```

```
        TextView textView = view.findViewById(R.id.fragmentTwoTextView);
        textView.setText("Fragment Two");

        btnFragmentTwo = view.findViewById(R.id.fragmentTwobutton);

        btnFragmentTwo.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Toast.makeText(getActivity(), "Fragment Two",
Toast.LENGTH_SHORT).show();
            }
        });
        return view;
    }
}
```

Output: