Experiment No. 1

Aim: Design a Login Form with username and password using LinearLayout and toast valid Credentials

CO1: Design and develop user interfaces for mobile apps using basic building blocks, UI components and application structure using Emulator

Procedure:

activity_main

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:orientation="vertical"
   android:padding="16dp">

   <TextView
      android:id="@+id/textView"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:text="LOGIN FORM"
      android:textAlignment="center" />

   <TextView
      android:id="@+id/textView1"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="USERNAME" />

   <EditText
      android:id="@+id/usernameEditText"
      android:layout_width="213dp"
      android:layout_height="wrap_content"
      android:layout_marginTop="8dp"
      android:hint="Enter username" />
```

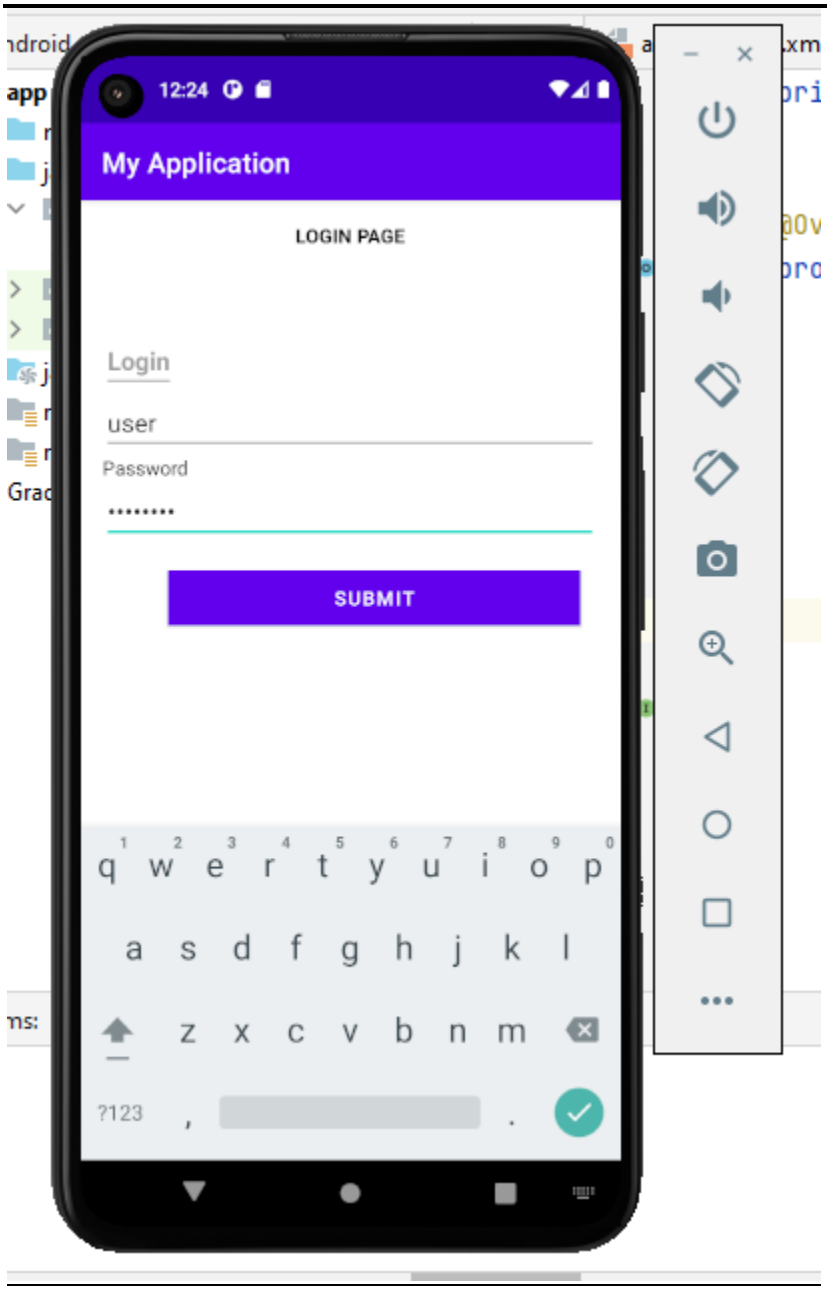
```
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="PASSWORD"
        android:layout_marginTop="16dp"/>

    <EditText
        android:id="@+id/passwordEditText"
        android:layout_width="215dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="8dp"
        android:hint="Enter password" />

    <Button
        android:id="@+id/loginButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Login" />

</LinearLayout>
```

Main.activity

```
package com.example.firstapp;

import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.Button;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;


public class MainActivity extends AppCompatActivity {
    private static final String VALID_USERNAME="user";
    private static final String VALID_PASSWORD="password";
```

```
    private EditText usernameEditText;
    private EditText passwordEditText;
    private Button loginButton;

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

        usernameEditText=findViewById(R.id.usernameEditText);
        passwordEditText=findViewById(R.id.passwordEditText);
        loginButton=findViewById(R.id.loginButton);

        loginButton.setOnClickListener(v -> {
            String enteredUsername=usernameEditText.getText().toString();
            String enteredPassword=passwordEditText.getText().toString();
            if(isValidCredentials(enteredUsername,enteredPassword)) {
                showToast("Login Successful");
            }
            else{
                showToast("Invalid Credentials");
            }
        });}
    private boolean isValidCredentials(String enteredUsername, String enteredPassword){
        return VALID_USERNAME.equals(enteredUsername) &&
VALID_PASSWORD.equals(enteredPassword);
    }
    private void showToast(String message){
        Toast.makeText(this,message,Toast.LENGTH_SHORT).show();
    }
}
```

Output:



Result : The program was execured successfully and the output was obtained.

Experiment No. 2

Aim: Implementing basic arithmetic operations of a simple calculator

CO1: Design and develop user interfaces for mobile apps using basic building blocks, UI components and application structure using Emulator.

CO2: Write simple programs and develop small applications using the concepts of UI design, layouts and preferences

Procedure:

Activity_main

```
<?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"
   android:orientation="vertical"
   android:padding="30dp"
   android:gravity="center_horizontal">

   <!-- Text View -->
   <TextView
      android:id="@+id/TextView1"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Simple Calculator"
      android:textColor="@color/black"
      android:textSize="24sp"
      android:layout_gravity="center"
      android:layout_marginBottom="16dp"
      android:textStyle="bold"/>
```

```
<!-- Edit Text-->

<EditText
   android:id="@+id/EditText1"
   android:layout_width="match_parent"
   android:layout_height="wrap_content"
   android:layout_margin="30dp"
   android:layout_marginStart="50dp"
   android:layout_marginTop="50dp"
   android:layout_marginEnd="50dp"
   android:layout_marginBottom="50dp" />

<GridLayout

   android:layout_width="match_parent"
   android:layout_height="wrap_content"
   android:rowCount="4"
   android:columnCount="4"
   android:layout_gravity="center"
   android:layout_marginTop="40dp">


   <Button
      android:id="@+id/button1"
      android:layout_width="0dp"
      android:layout_height="wrap_content"
      style="?android:attr/buttonStyleSmall"
      android:layout_columnWeight="1"
      android:text="1"
      android:textSize="18sp"
      android:onClick="onDigitClick"/>

   <Button
      android:id="@+id/button2"
      android:layout_width="0dp"
      android:layout_height="wrap_content"
      style="?android:attr/buttonStyleSmall"
      android:layout_columnWeight="1"
      android:text="2"
      android:textSize="18sp"
```

```
    android:onClick="onDigitClick"/>

<Button
    android:id="@+id/button3"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    style="?android:attr/buttonStyleSmall"
    android:layout_columnWeight="1"
    android:text="3"
    android:textSize="18sp"
    android:onClick="onDigitClick"/>

<Button
    android:id="@+id/buttonDiv"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    style="?android:attr/buttonStyleSmall"
    android:layout_columnWeight="1"
    android:text="/"
    android:textSize="18sp"
    android:onClick="onOperatorClick"/>


<Button
    android:id="@+id/button4"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    style="?android:attr/buttonStyleSmall"
    android:layout_columnWeight="1"
    android:text="4"
    android:textSize="18sp"
    android:onClick="onDigitClick"/>

<Button
    android:id="@+id/button5"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    style="?android:attr/buttonStyleSmall"
    android:layout_columnWeight="1"
    android:text="5"
```

```
    android:textSize="18sp"
    android:onClick="onDigitClick"/>

<Button
    android:id="@+id/button6"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    style="?android:attr/buttonStyleSmall"
    android:layout_columnWeight="1"
    android:text="6"
    android:textSize="18sp"
    android:onClick="onDigitClick"/>

<Button
    android:id="@+id/buttonMul"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    style="?android:attr/buttonStyleSmall"
    android:layout_columnWeight="1"
    android:text="*"
    android:textSize="18sp"
    android:onClick="onOperatorClick"/>


<Button
    android:id="@+id/button7"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    style="?android:attr/buttonStyleSmall"
    android:layout_columnWeight="1"
    android:text="7"
    android:textSize="18sp"
    android:onClick="onDigitClick"/>

<Button
    android:id="@+id/button8"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    style="?android:attr/buttonStyleSmall"
    android:layout_columnWeight="1"
```

```
    android:text="8"
    android:textSize="18sp"
    android:onClick="onDigitClick"/>

<Button
    android:id="@+id/button9"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    style="?android:attr/buttonStyleSmall"
    android:layout_columnWeight="1"
    android:text="9"
    android:textSize="18sp"
    android:onClick="onDigitClick"/>

<Button
    android:id="@+id/buttonSub"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    style="?android:attr/buttonStyleSmall"
    android:layout_columnWeight="1"
    android:text="-"
    android:textSize="18sp"
    android:onClick="onOperatorClick"/>


<Button
    android:id="@+id/button0"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    style="?android:attr/buttonStyleSmall"
    android:layout_columnWeight="1"
    android:text="0"
    android:textSize="18sp"
    android:onClick="onDigitClick"/>

<Button
    android:id="@+id/buttonDot"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    style="?android:attr/buttonStyleSmall"
```

```
        android:layout_columnWeight="1"
        android:text="C"
        android:textSize="18sp"
        android:onClick="onClearClick"/>

    <Button
        android:id="@+id/buttonEqual"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        style="?android:attr/buttonStyleSmall"
        android:layout_columnWeight="1"
        android:text="="
        android:textSize="18sp"
        android:onClick="onEqualsClick"/>

    <Button
        android:id="@+id/buttonAdd"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        style="?android:attr/buttonStyleSmall"
        android:layout_columnWeight="1"
        android:text="+"
        android:textSize="18sp"
        android:onClick="onOperatorClick"/>



  </GridLayout>

</LinearLayout>
```

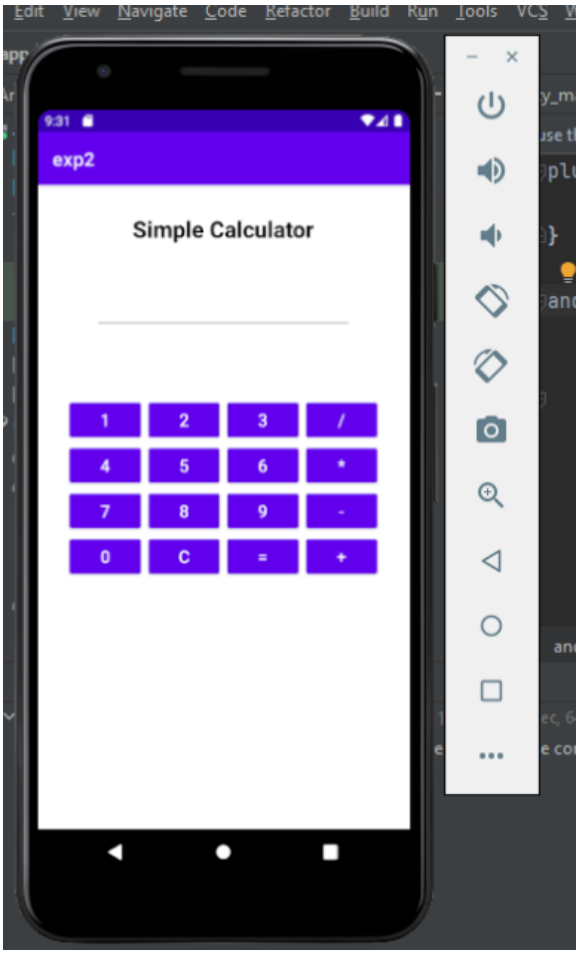
Main.activity

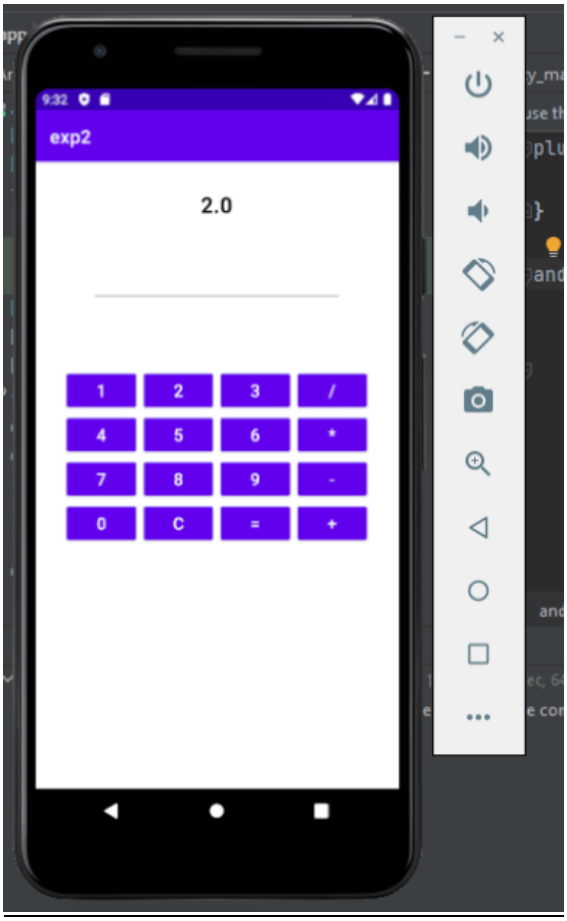
```
package com.example.calc;

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

```
import android.widget.TextView;


public class MainActivity extends AppCompatActivity {

    private TextView TextView1;
    private Button button1;
    private Button button2;
    private Button button3;
    private Button buttonDiv;
    private Button button4;
    private Button button5;
    private Button button6;
    private Button buttonMul;
    private Button button7;
    private Button button8;
    private Button button9;
    private Button buttonSub;
    private Button button0;
    private Button buttonDot;
    private Button buttonEqual;
    private Button buttonAdd;
    private String currentInput = "";
    private double operand1 = 0;
    private String operator = "";

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        TextView1 =  findViewById(R.id.TextView1);
    }

    public void onDigitClick(View view) {
        Button button = (Button) view;
        currentInput += button.getText().toString();
        updateDisplay();
    }
    public void onOperatorClick(View view){
        if (!currentInput.isEmpty()){
            operand1 = Double.parseDouble(currentInput);
```

```
            operator = ((Button) view).getText().toString();
            currentInput = "";
        }
    }
    public void onEqualsClick(View view){
        if (!currentInput.isEmpty()){
            double operand2 = Double.parseDouble(currentInput);
            double result = performOperation(operand1,operand2,operator);
            currentInput = String.valueOf((result));
            updateDisplay();
        }
    }
    public void onClearClick(View view){
        currentInput = "";
        operand1 = 0;
        operator = "";
        updateDisplay();
    }
    private double performOperation(double operand1, double operand2, String operator){
        switch (operator){
            case "+":
                return operand1 + operand2;
            case "-":
                return operand1 - operand2;
            case "*":
                return operand1 * operand2;
            case "/":
                if (operand2 !=0) {
                    return operand1 / operand2;
                } else {
                    return Double.NaN;
                }
            default:
                return 0;
        }
    }
    public void updateDisplay(){
        TextView1.setText(currentInput);
    }
}
```

Output





Result : The program was execured successfully and the output was obtained.

Experiment No. 3

Aim: Write a program that demonstrates Activity Lifecycle.

CO1: Design and develop user interfaces for mobile apps using basic building blocks, UI components and application structure using Emulator.

Procedure:

Activity_main

```
package com.example.cycle;

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);
      showToast("Activity Created");
   }
   protected void onStart(){
      super.onStart();
      showToast("Activity Started");

   }
   protected void onResume(){
      super.onResume();
      showToast("Activity Resumed");
   }
   protected void onPause(){
      super.onPause();
```

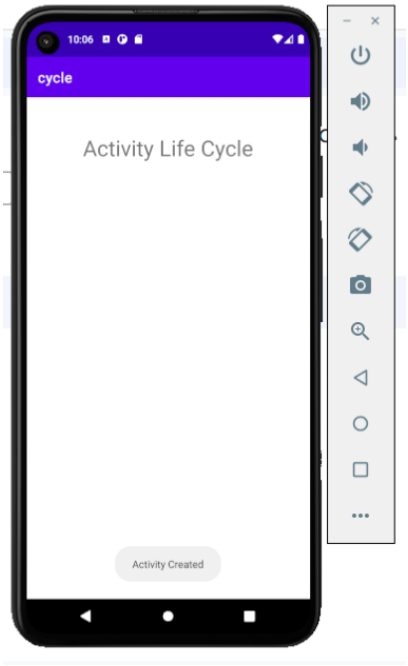
```
        showToast("Activity Paused");
    }
    protected void onStop(){
        super.onStop();
        showToast("Activity Stopped");
    }
    protected void onRestart(){
        super.onRestart();
        showToast("Activity Restarted");
    }

    @Override
    protected void onDestroy() {
        super.onDestroy();
        showToast("Activity Destroyed");
    }
    void showToast(String message){
        Toast.makeText(this,message,Toast.LENGTH_LONG).show();
    }
}
```

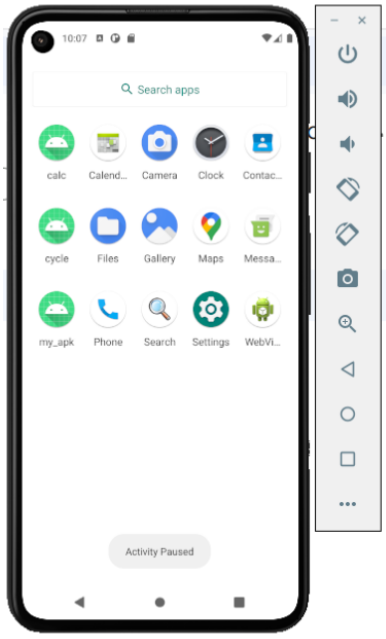
MainActivity.java

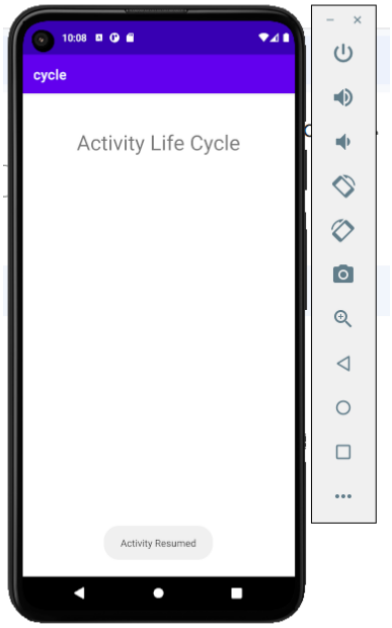
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
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

    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:text="Activity Life Cycle"
        android:textAlignment="center"
        android:layout_marginTop="50dp"
        android:textSize="30dp"/>
```

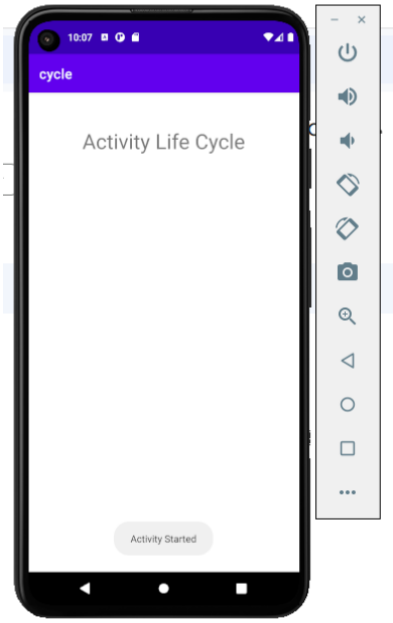
</androidx.constraintlayout.widget.ConstraintLayout>

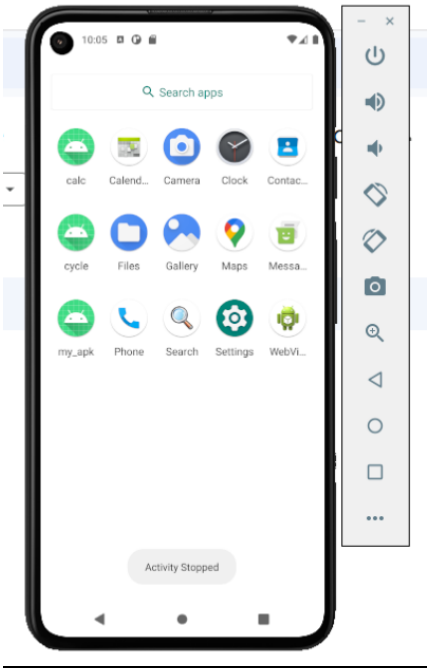
output











Result : The program was execured successfully and the output was obtained.

Experiment No. 4

Aim: Implement validations on various UI controls

CO1: Design and develop user interfaces for mobile apps using basic building blocks, UI components and application structure using Emulator.

CO2: Write simple programs and develop small applications using the concepts of UI design, layouts and preferences

Procedure:

Activity_main

```
<?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"
    android:orientation="vertical"
    android:padding="16dp"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/constraintButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="ConstraintLayout" />

    <Button
        android:id="@+id/linearButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="LinearLayout" />

    <Button
```

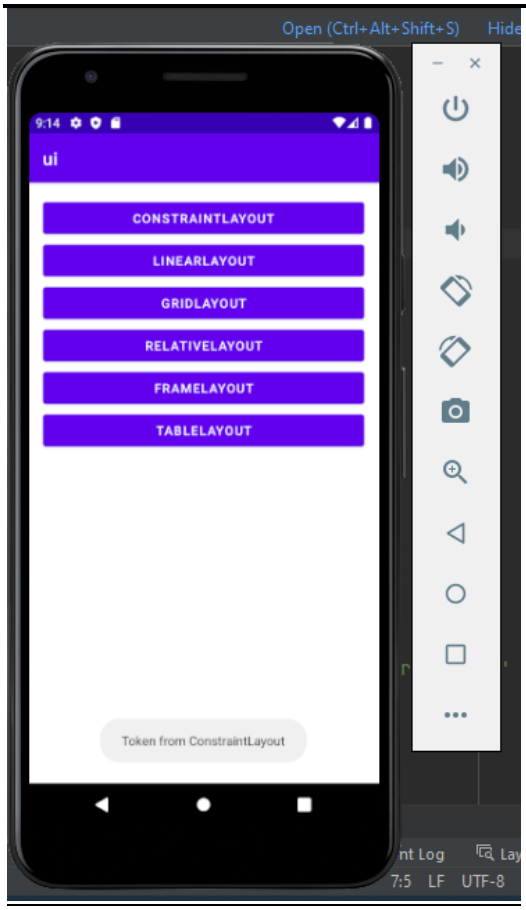
```
        android:id="@+id/gridButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="GridLayout" />

    <Button
        android:id="@+id/relativeButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="RelativeLayout" />

    <Button
        android:id="@+id/frameButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="FrameLayout" />

    <Button
        android:id="@+id/tableButton"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="TableLayout" />

</LinearLayout>
```

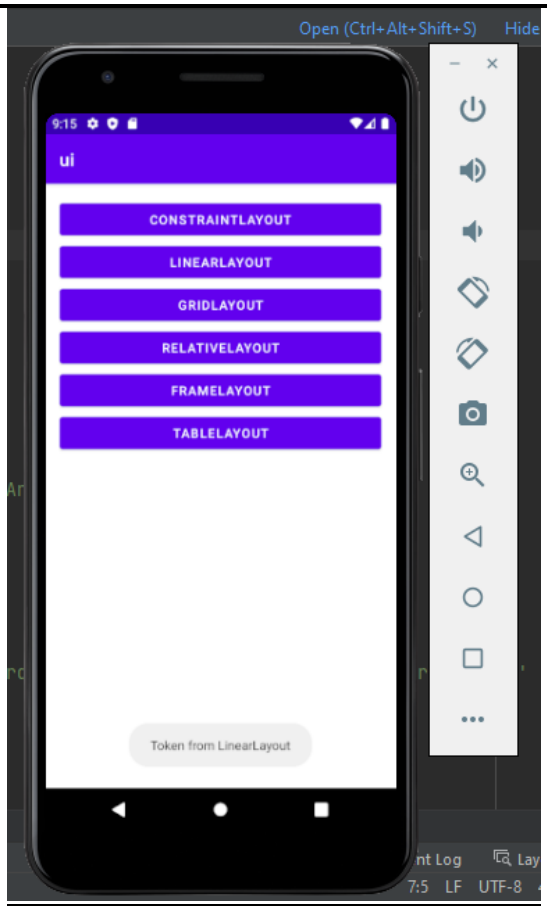
MainActivity.java

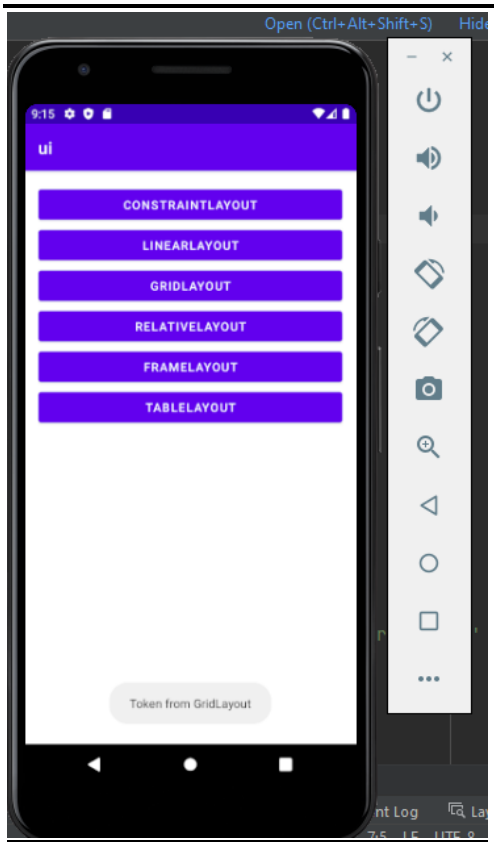
```
package com.example.ui;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    @Override
```

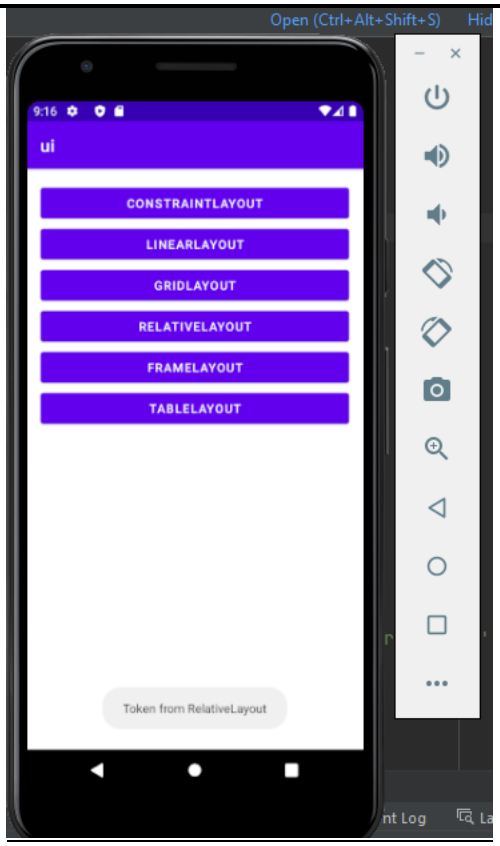
```
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        Button constraintButton = findViewById(R.id.constraintButton);
        Button linearButton = findViewById(R.id.linearButton);
        Button gridButton = findViewById(R.id.gridButton);
        Button relativeButton = findViewById(R.id.relativeButton);
        Button frameButton = findViewById(R.id.frameButton);
        Button tableButton = findViewById(R.id.tableButton);

        View.OnClickListener buttonClickListener = new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String layoutName = ((Button) v).getText().toString();
                displayToken(layoutName);
            }
        };

        constraintButton.setOnClickListener(buttonClickListener);
        linearButton.setOnClickListener(buttonClickListener);
        gridButton.setOnClickListener(buttonClickListener);
        relativeButton.setOnClickListener(buttonClickListener);
        frameButton.setOnClickListener(buttonClickListener);
        tableButton.setOnClickListener(buttonClickListener);
    }

    private void displayToken(String layoutName) {
        Toast.makeText(this, "Token from " + layoutName, Toast.LENGTH_SHORT).show();
    }
}
```

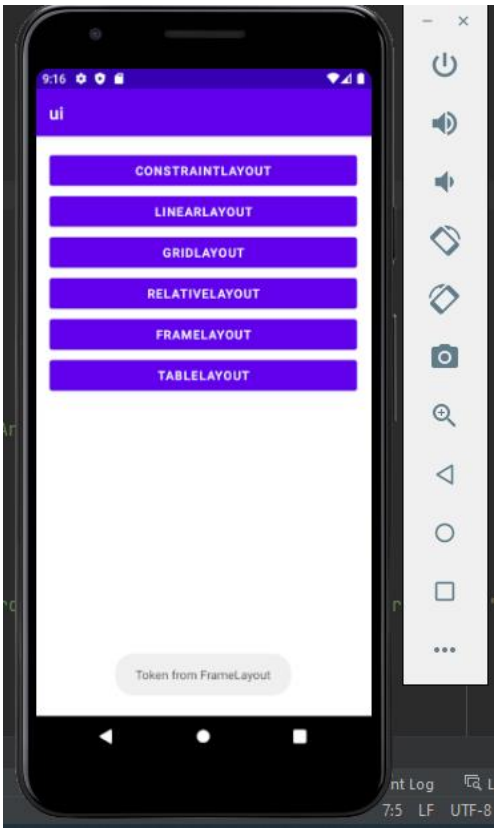
Output

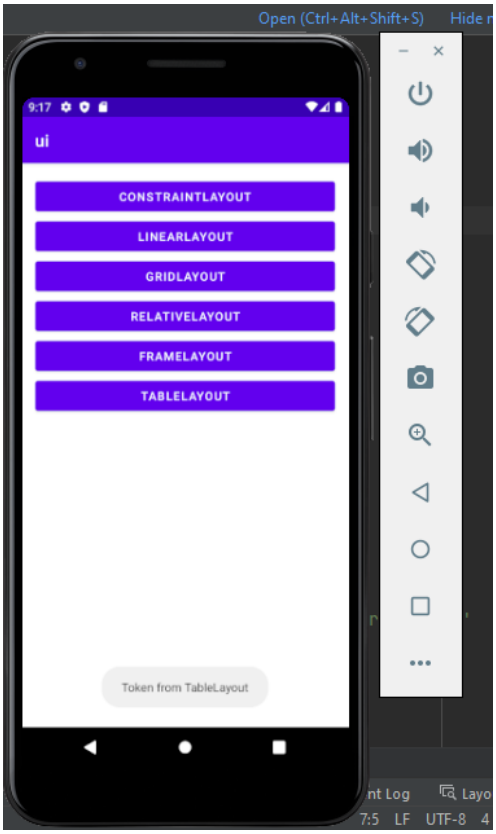

Open (Ctrl+Alt+Shift+S)
Hide
9:14
ui
CONSTRAINTLAYOUT
LINEARLAYOUT
GRIDLAYOUT
RELATIVELAYOUT
FRAMELAYOUT
TABLELAYOUT
Token from ConstraintLayout
nt Log
7:5 LF UTF-8


Open (Ctrl+Alt+Shift+S)
Hide
9:15
ui
CONSTRAINTLAYOUT
LINEARLAYOUT
GRIDLAYOUT
RELATIVELAYOUT
FRAMELAYOUT
TABLELAYOUT
Token from LinearLayout
nt Log
7:5 LF UTF-8


Open (Ctrl+Alt+Shift+S)
9:15
ui
CONSTRAINTLAYOUT
LINEARLAYOUT
GRIDLAYOUT
RELATIVELAYOUT
FRAMELAYOUT
TABLELAYOUT
Token from GridLayout


Open (Ctrl+Alt+Shift+S)
9:16
ui
CONSTRAINTLAYOUT
LINEARLAYOUT
GRIDLAYOUT
RELATIVELAYOUT
FRAMELAYOUT
TABLELAYOUT
Token from RelativeLayout


9:16
ui
CONSTRAINTLAYOUT
LINEARLAYOUT
GRIDLAYOUT
RELATIVELAYOUT
FRAMELAYOUT
TABLELAYOUT
Token from FrameLayout
7:5 LF UTF-8


Open (Ctrl+Alt+Shift+S)
9:17
ui
CONSTRAINTLAYOUT
LINEARLAYOUT
GRIDLAYOUT
RELATIVELAYOUT
FRAMELAYOUT
TABLELAYOUT
Token from TableLayout
7:5 LF UTF-8

Experiment No. 5

Aim: Create a Facebook page using RelativeLayout; set properties using .xml file

CO2: Write simple programs and develop small applications using the concepts of UI design, layouts and preferences

Procedure:

Activity_main

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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="fill_parent"
   android:layout_height="fill_parent"
   android:paddingLeft="16dp"
   android:paddingRight="16dp" >
   <ScrollView
      android:layout_width="match_parent"
      android:layout_height="match_parent">


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


         <ImageView
            android:id="@+id/facebookView"
            android:layout_width="200dp"
            android:layout_height="80dp"
            android:layout_gravity="center"
            android:src="@drawable/facebook" />
```

```
<ImageView
   android:id="@+id/imageView4"
   android:layout_width="match_parent"
   android:layout_height="281dp"
   android:src="@drawable/post" />

<GridLayout
   android:layout_width="match_parent"
   android:layout_height="wrap_content"
   android:layout_gravity="center"
   android:layout_marginTop="40dp"
   android:columnCount="4"
   android:rowCount="4">

   <!-- Like ImageView -->
   <ImageView
      android:id="@+id/likeImageView"
      android:layout_width="110dp"
      android:layout_height="83dp"
      android:layout_gravity="center"
      android:clickable="true"
      android:onClick="onLikeClick"
      android:src="@drawable/like" />



   <!-- Comment ImageView -->
   <ImageView
      android:id="@+id/commentImageView"
      android:layout_width="111dp"
      android:layout_height="66dp"
      android:layout_row="0"
      android:layout_column="1"
      android:layout_gravity="center"
      android:clickable="true"
      android:onClick="onCommentClick"
      android:src="@drawable/comment" />
   <ImageView
      android:id="@+id/shareImageView"
      android:layout_width="93dp"
```

```
        android:layout_height="86dp"
        android:layout_row="0"
        android:layout_column="3"
        android:layout_gravity="center"
        android:clickable="true"
        android:onClick="onShareClick"
        android:src="@drawable/share" />



</GridLayout>


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

    <ImageView
        android:id="@+id/imageView7"
        android:layout_width="match_parent"
        android:layout_height="281dp"
        android:src="@drawable/dog" />




    <GridLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="40dp"
        android:columnCount="4"
        android:rowCount="4">

        <!-- Like ImageView -->
        <ImageView
            android:id="@+id/likeImageView2"
            android:layout_width="110dp"
            android:layout_height="83dp"
```

```
            android:layout_gravity="center"
            android:clickable="true"
            android:onClick="onLikeClick"
            android:src="@drawable/like" />
        <!-- (Your existing ImageView code) -->



        <!-- Comment ImageView -->
        <ImageView
            android:id="@+id/commentImageView2"
            android:layout_width="111dp"
            android:layout_height="66dp"
            android:layout_row="0"
            android:layout_column="1"
            android:layout_gravity="center"
            android:clickable="true"
            android:onClick="onCommentClick"
            android:src="@drawable/comment" />
        <ImageView
            android:id="@+id/shareImageView2"
            android:layout_width="93dp"
            android:layout_height="86dp"
            android:layout_row="0"
            android:layout_column="3"
            android:layout_gravity="center"
            android:clickable="true"
            android:onClick="onShareClick"
            android:src="@drawable/share" />

        <!-- (Your existing ImageView code) -->

    </GridLayout>
</LinearLayout>



</LinearLayout>
</ScrollView>
```

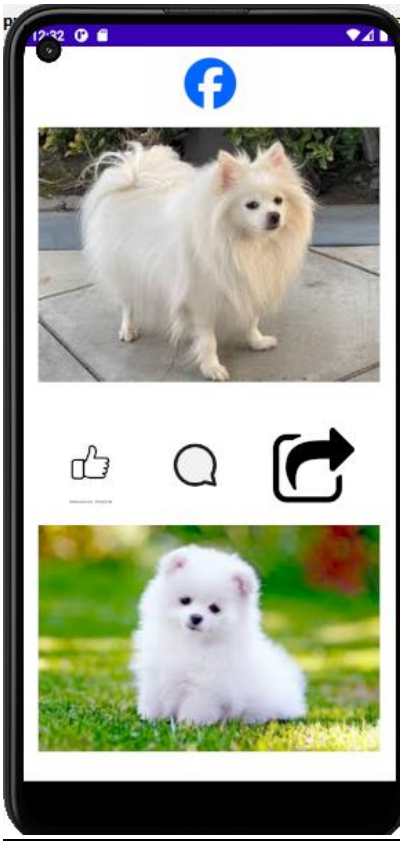
```
</RelativeLayout>
```

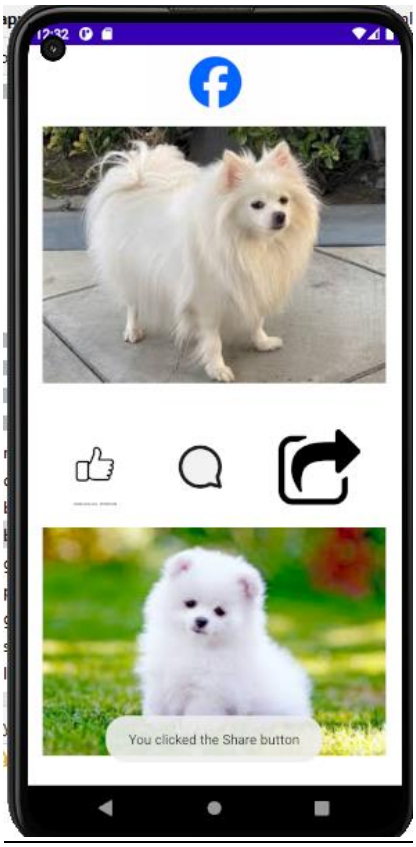
MainActivity.java

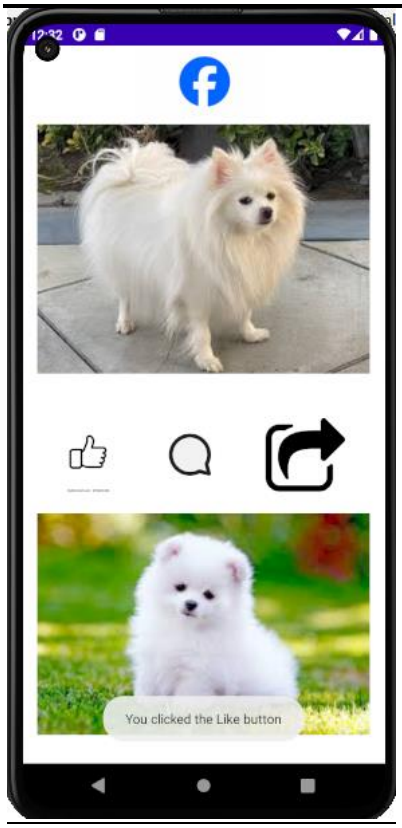
```
package com.example.facebook;

import androidx.appcompat.app.AppCompatActivity;
import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
import android.widget.Toast;


public class MainActivity extends Activity {

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

      // Find the ImageView elements by their IDs
      ImageView facebookView = findViewById(R.id.facebookView );
      ImageView likeImageView = findViewById(R.id.likeImageView);
      ImageView commentImageView = findViewById(R.id.commentImageView);
      ImageView shareImageView = findViewById(R.id.shareImageView);

      // Set click listeners for the ImageViews
      likeImageView.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {
            showToast("You clicked the Like button");
         }
      });

      commentImageView.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {
            showToast("You clicked the Comment button");
```

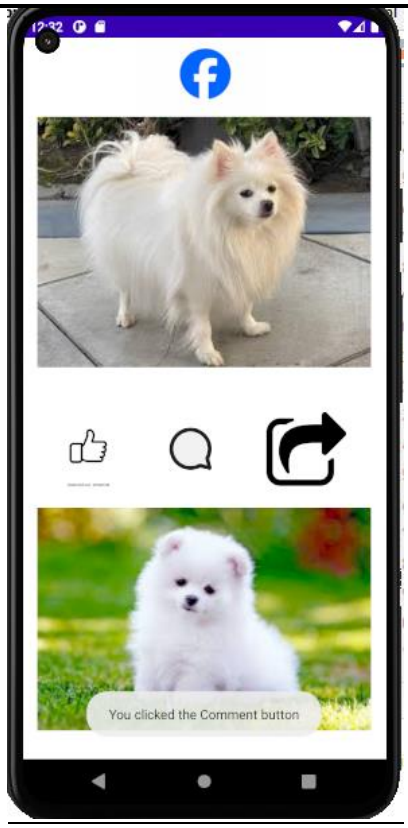
```
        }
    });

    shareImageView.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            showToast("You clicked the Share button");
        }
    });
}

// Helper method to display a toast message
private void showToast(String message) {
    Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
}
}
```

Output









Result : The program was execured successfully and the output was obtained.

Experiment No. 6

Aim: Develop an application that toggles image using FrameLayout

CO2: Write simple programs and develop small applications using the concepts of UI design, layouts and preferences

Procedure:

Activity_main

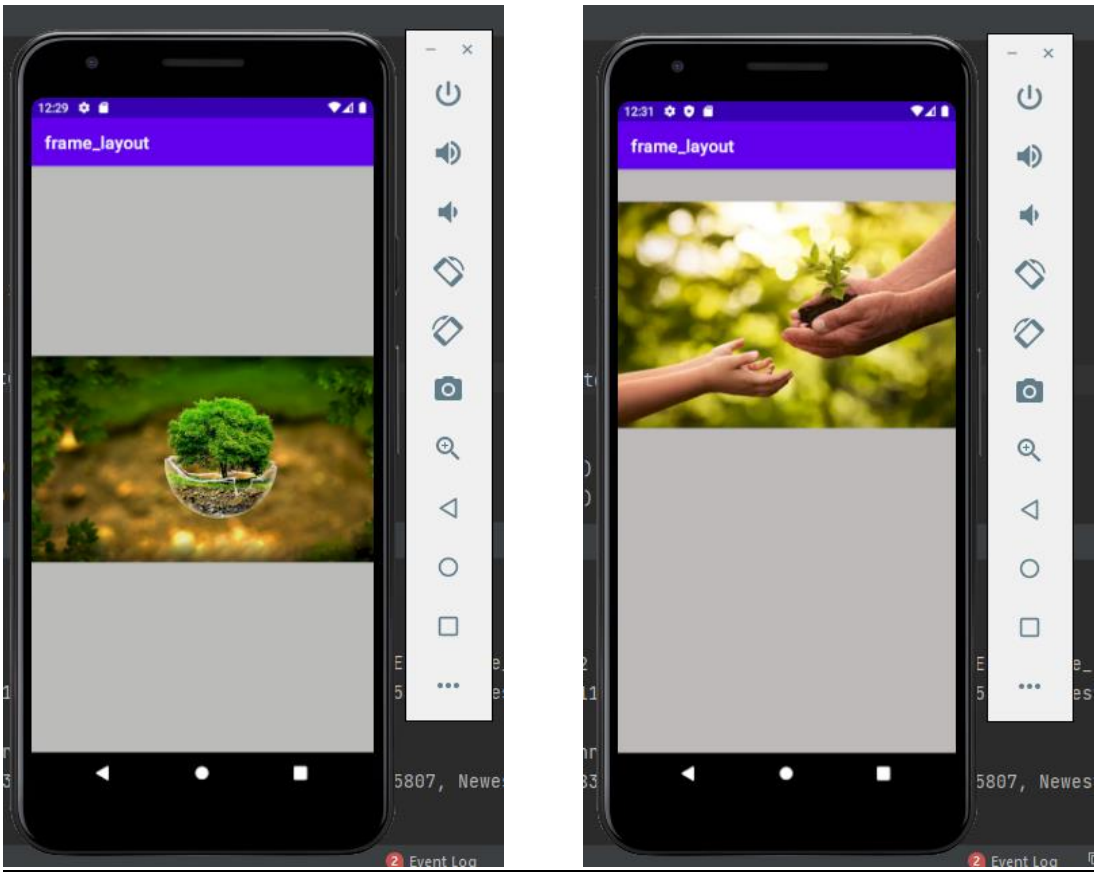
```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#BDBABA"
    tools:context=".MainActivity">


    <ImageView
        android:id="@+id/imageView1"
        android:layout_width="427dp"
        android:layout_height="wrap_content"
        android:layout_gravity="left|top"
        android:background="#CACAC8"
        app:srcCompat="@drawable/s1" />

    <ImageView
        android:id="@+id/imageView2"
        android:layout_width="396dp"
        android:layout_height="wrap_content"
        android:layout_gravity="left|top"
        android:visibility="gone"
        app:srcCompat="@drawable/f1" />
</FrameLayout>
```

MainActivity.java

```
javapackage com.example.frame_layout;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity implements View.OnClickListener {
   ImageView i1,i2;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      i1=(ImageView) findViewById(R.id.imageView1);
      i2=(ImageView) findViewById(R.id.imageView2);
      i1.setOnClickListener(this);
      i2.setOnClickListener(this);
   }

   @Override
   public void onClick(View v) {
      if(v.getId()==R.id.imageView1)
      {
         i1.setVisibility(v.GONE);
         i2.setVisibility(v.VISIBLE);
      }
      else
      {

         i2.setVisibility(v.GONE);
         i1.setVisibility(v.VISIBLE);
      }
```

```
    }
}
```

Output



Result : The program was execured successfully and the output was obtained.

Experiment No. 7

Aim: Design a registration activity and store registration details in local memory of phone using Intents and SharedPreferences.

CO2: Write simple programs and develop small applications using the concepts of UI design, layouts and preferences

Procedure:

Activity_main

```
<?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"
    android:orientation="vertical"
    android:padding="16dp"
    android:gravity="center">

    <EditText
        android:id="@+id/usernameEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Username"
        android:inputType="text" />

    <EditText
        android:id="@+id/emailEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Email"
        android:inputType="textEmailAddress" />

    <EditText
```

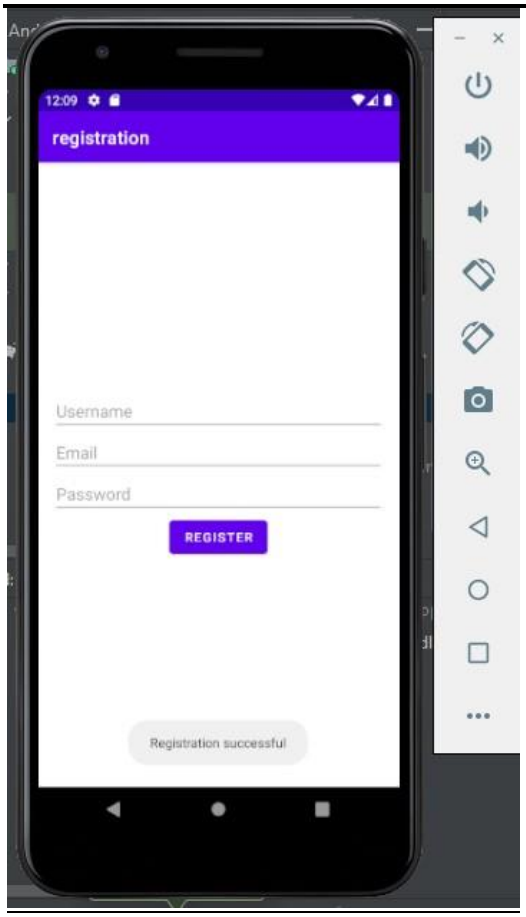
```
        android:id="@+id/passwordEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Password"
        android:inputType="textPassword" />

    <Button
        android:id="@+id/registerButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="Register" />

</LinearLayout>
```

MainActivity.java

```
package com.example.registration;

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

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {
    private EditText usernameEditText, emailEditText, passwordEditText;
    private Button registerButton;

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

```
        usernameEditText = findViewById(R.id.usernameEditText);
        emailEditText = findViewById(R.id.emailEditText);
        passwordEditText = findViewById(R.id.passwordEditText);
        registerButton = findViewById(R.id.registerButton);

        registerButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String username = usernameEditText.getText().toString();
                String email = emailEditText.getText().toString();
                String password = passwordEditText.getText().toString();

                // Store registration details in SharedPreferences
                SharedPreferences preferences = getSharedPreferences("MyPrefs",
MODE_PRIVATE);
                SharedPreferences.Editor editor = preferences.edit();
                editor.putString("username", username);
                editor.putString("email", email);
                editor.putString("password", password);
                editor.apply();

                Toast.makeText(MainActivity.this, "Registration successful",
Toast.LENGTH_SHORT).show();

                // Start another activity, e.g., MainActivity, using an Intent
                Intent intent = new Intent(MainActivity.this, MainActivity.class);
                startActivity(intent);
            }
        });
    }
}
```

Output



Result : The program was execured successfully and the output was obtained.