**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);

}

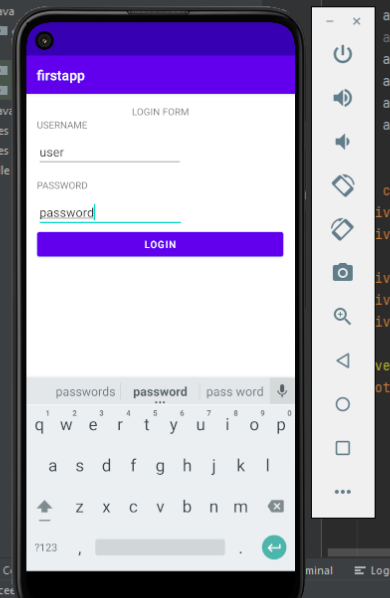
private void showToast(String message){

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;

}

}

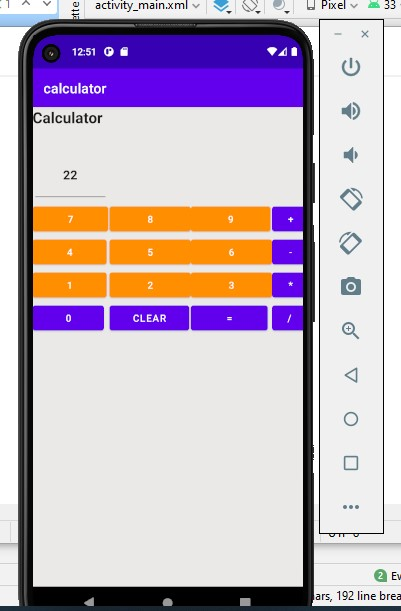
public void updateDisplay(){

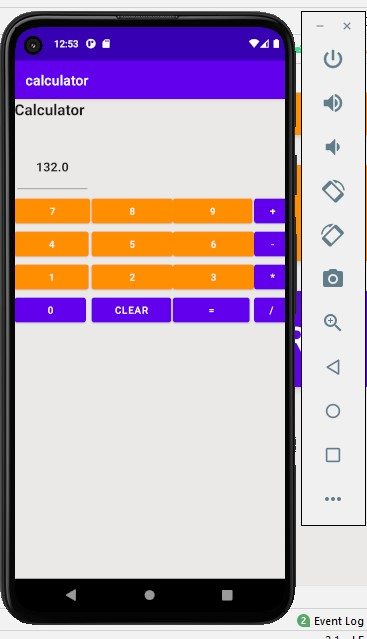
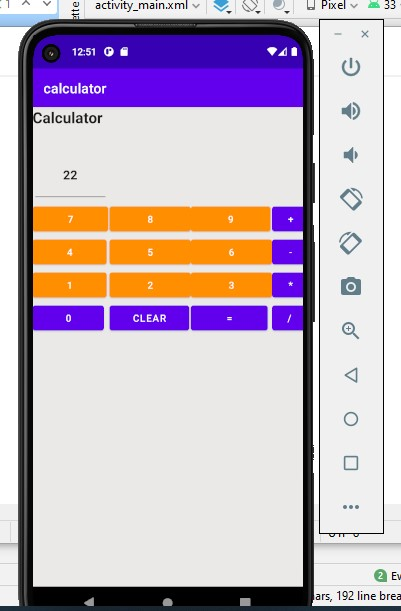
TextView1.setText(currentInput);

}

}

**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"

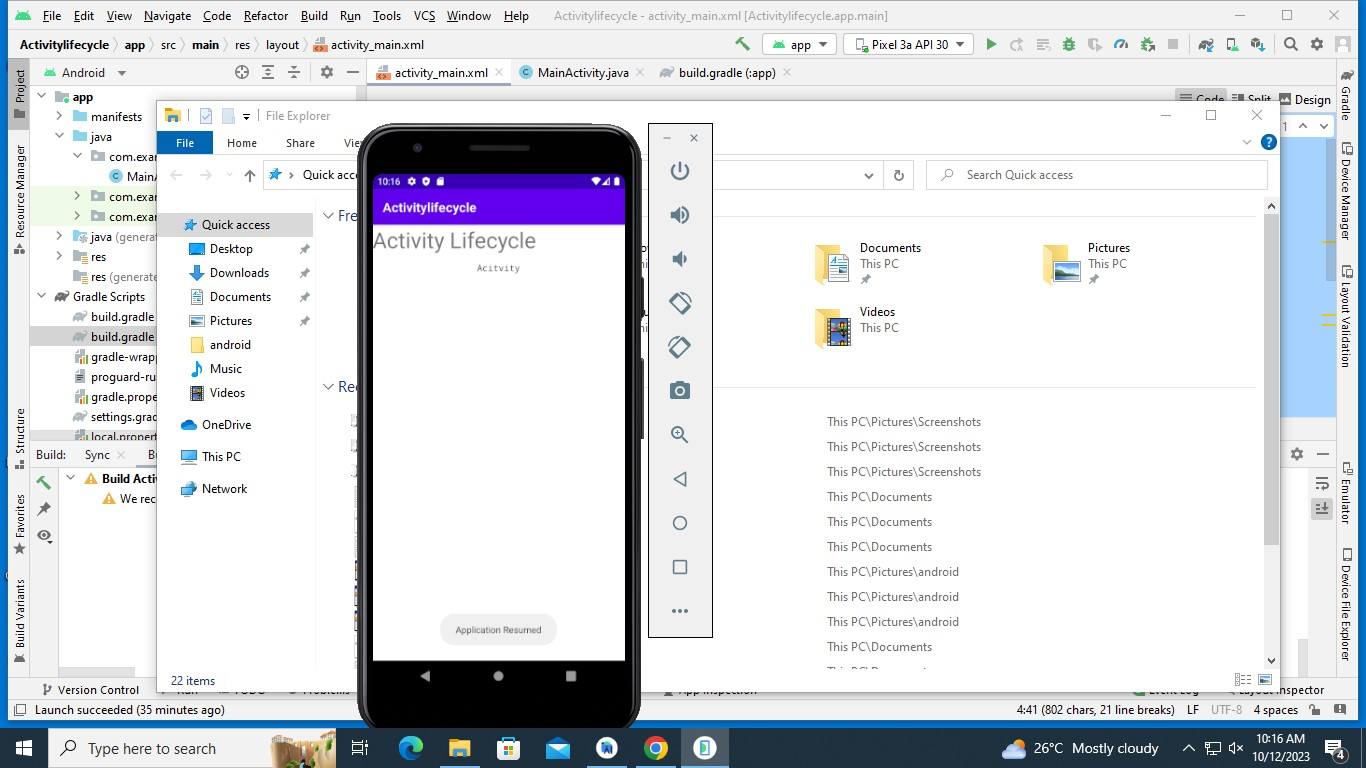
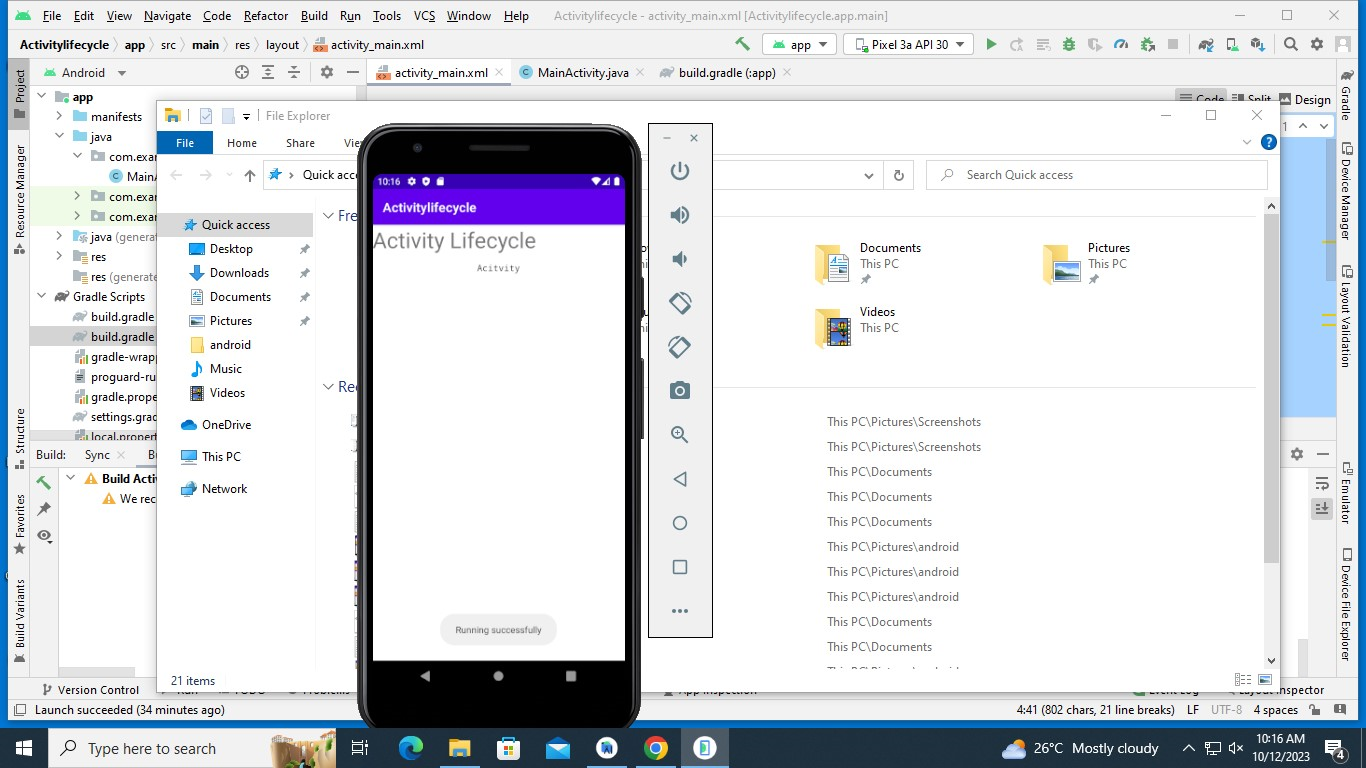
android:textAlignment="center"

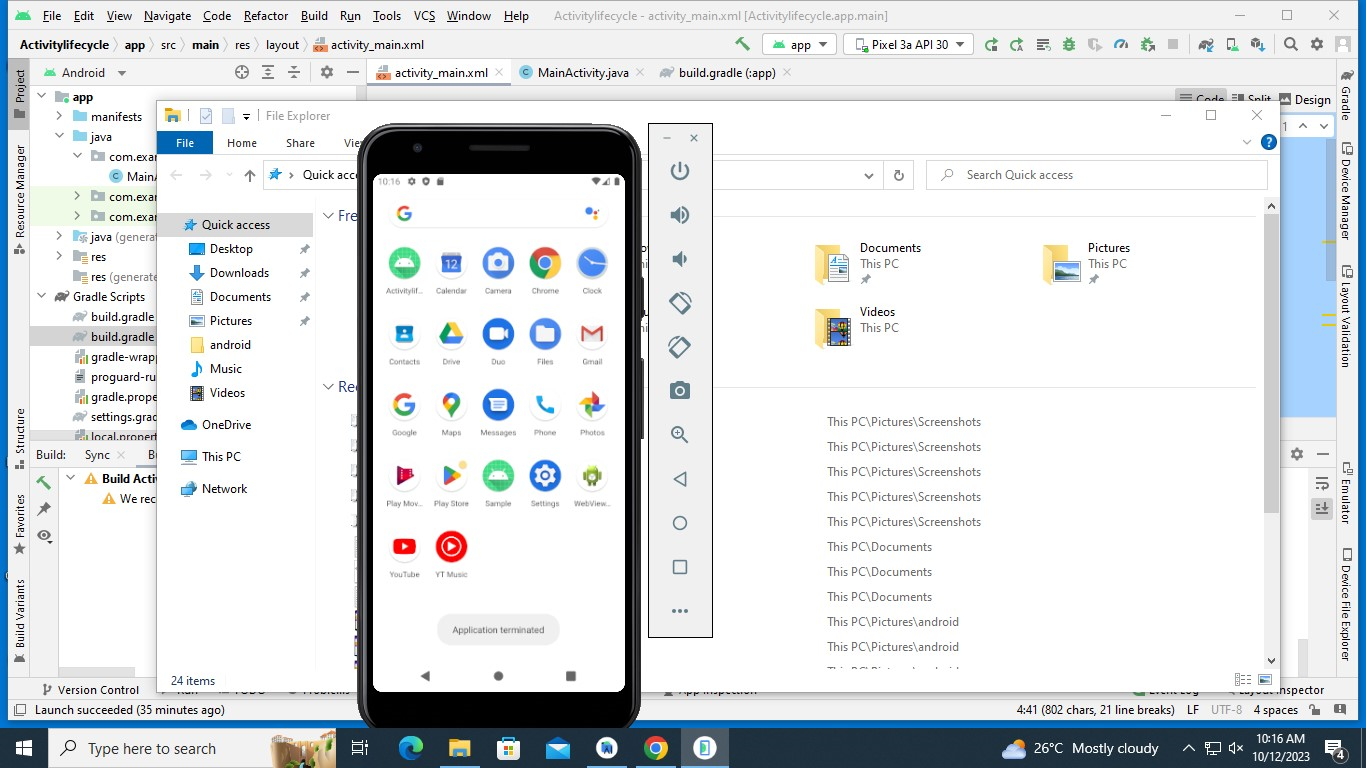
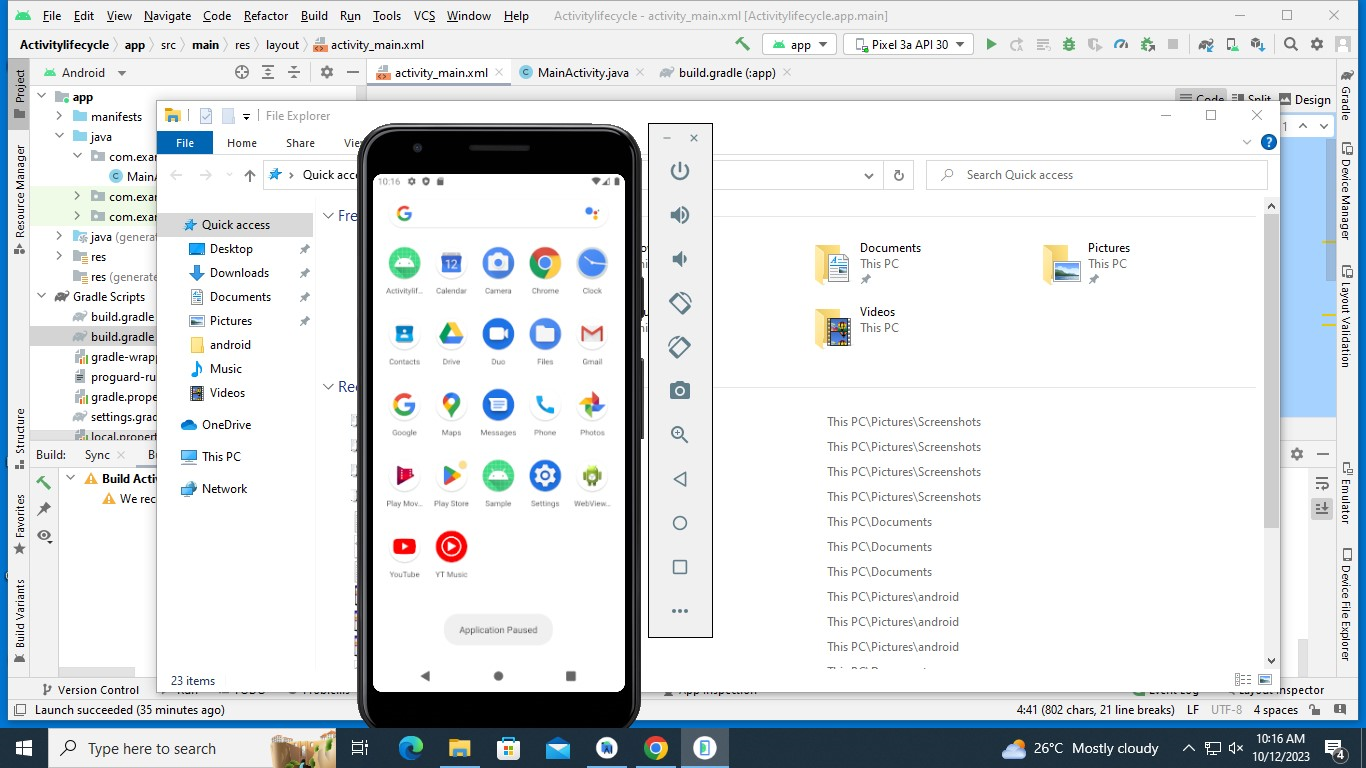
android:layout\_marginTop="50dp"

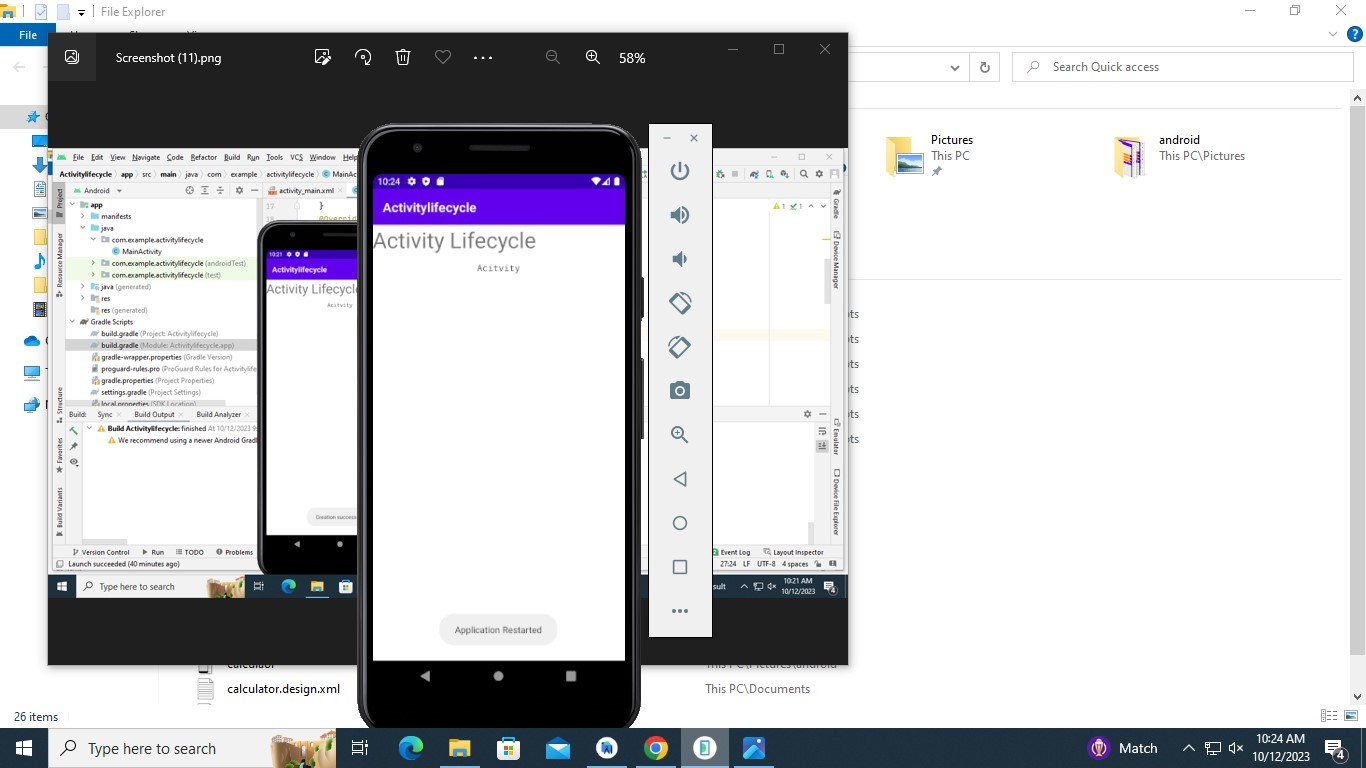
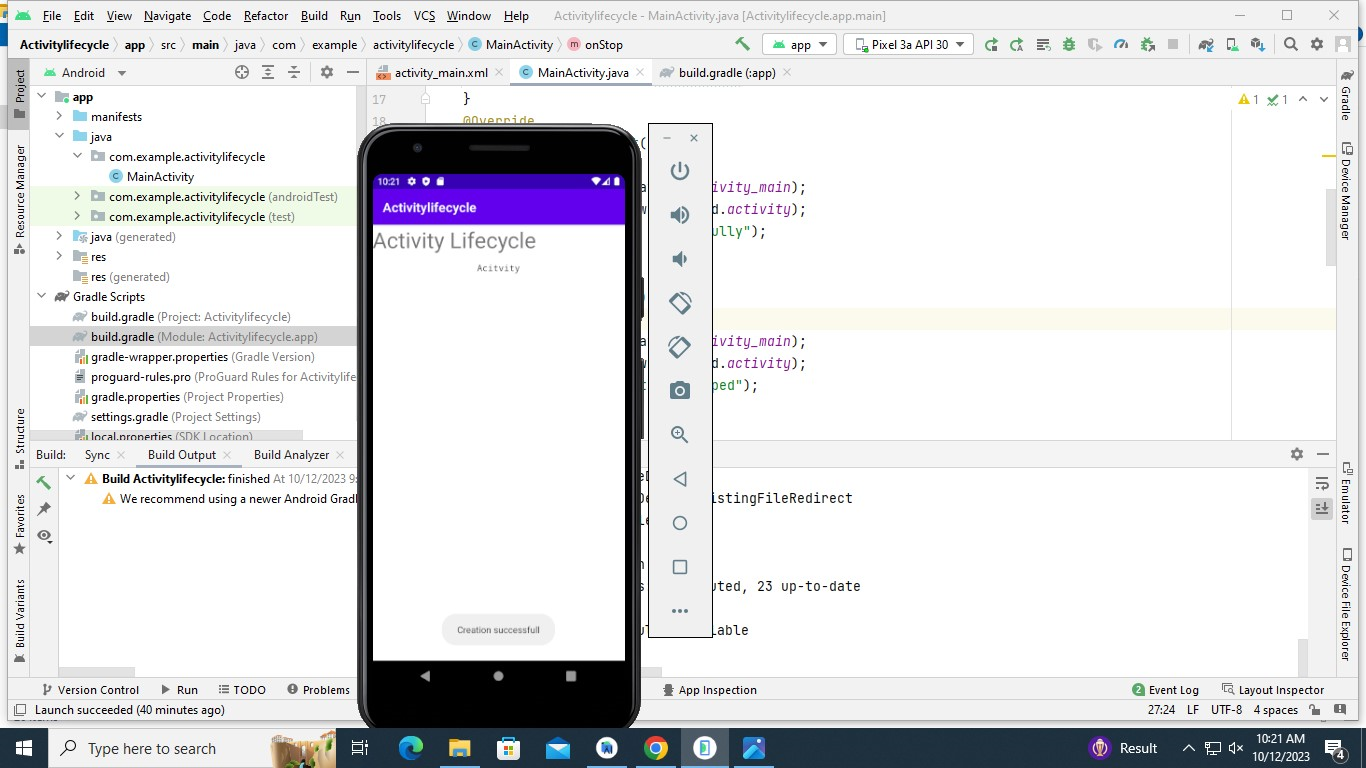
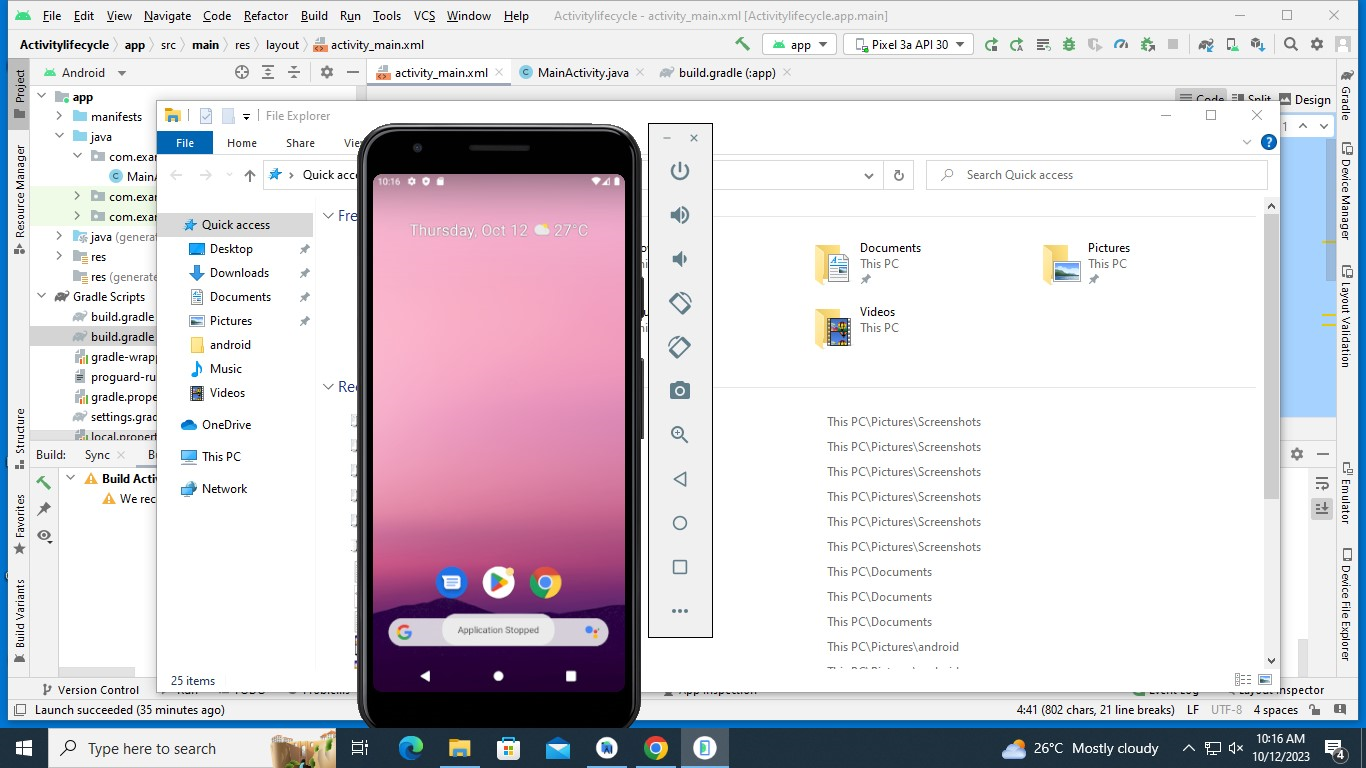
android:textSize="30dp"/>

</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);

}

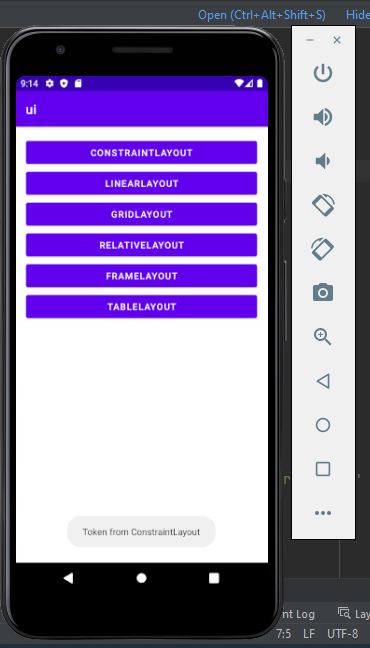
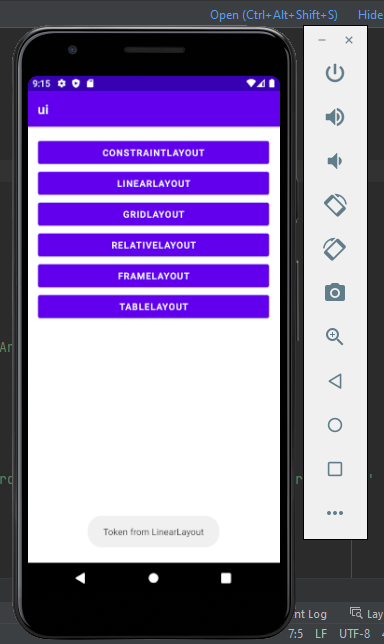
private void displayToken(String layoutName) {

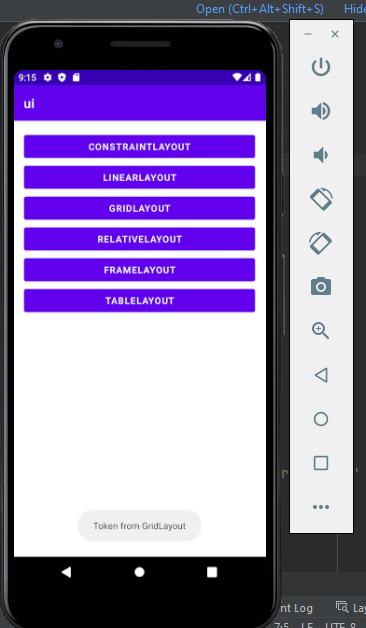
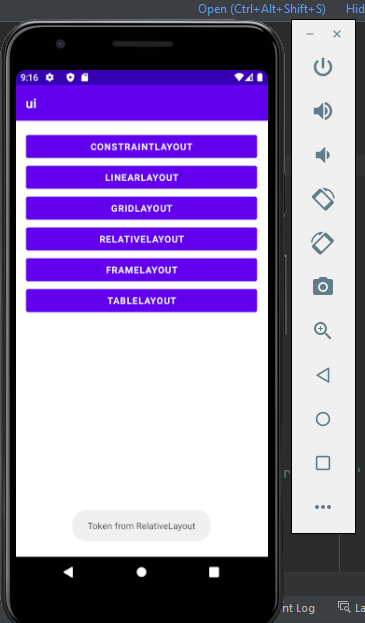
Toast.makeText(this, "Token from " + layoutName, Toast.LENGTH\_SHORT).show();

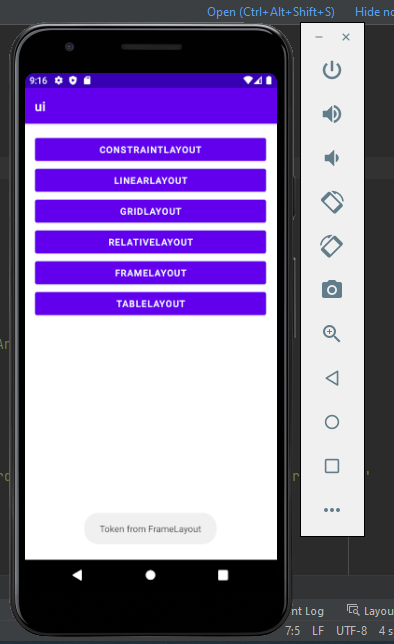
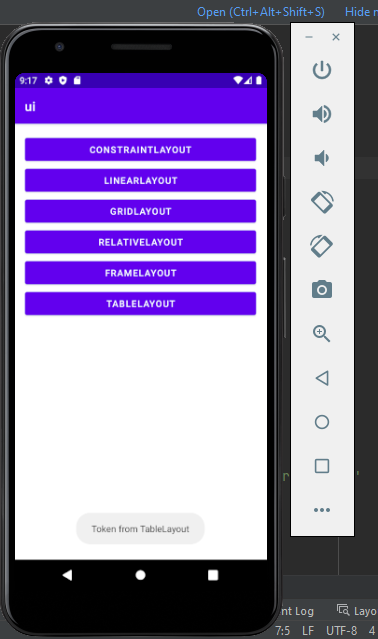
}

}

**Output**

**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"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:background="@drawable/bg">

<ImageView

android:id="@+id/imageView"

android:layout\_width="match\_parent"

android:layout\_height="129dp"

android:src="@drawable/logo"

android:background="#3b5998"/>

<ImageView

android:id="@+id/imageView2"

android:layout\_width="395dp"

android:layout\_height="510dp"

android:layout\_alignParentEnd="true"

android:layout\_alignParentBottom="true"

android:layout\_marginEnd="0dp"

android:layout\_marginBottom="143dp"

app:srcCompat="@drawable/post" />

<ImageView

android:id="@+id/imageView3"

android:layout\_width="144dp"

android:layout\_height="86dp"

android:layout\_alignParentBottom="true"

android:layout\_marginBottom="170dp"

app:srcCompat="@drawable/like" />

<ImageView

android:id="@+id/imageView4"

android:layout\_width="204dp"

android:layout\_height="124dp"

android:layout\_alignParentEnd="true"

android:layout\_alignParentBottom="true"

android:layout\_marginStart="-38dp"

android:layout\_marginEnd="101dp"

android:layout\_marginBottom="147dp"

android:layout\_toEndOf="@+id/imageView3"

app:srcCompat="@drawable/comment" />

<ImageView

android:id="@+id/imageView5"

android:layout\_width="85dp"

android:layout\_height="51dp"

android:layout\_alignParentEnd="true"

android:layout\_alignParentBottom="true"

android:layout\_marginEnd="23dp"

android:layout\_marginBottom="182dp"

app:srcCompat="@drawable/share" />

<TextView

android:id="@+id/textView"

android:layout\_width="156dp"

android:layout\_height="wrap\_content"

android:layout\_alignParentEnd="true"

android:layout\_alignParentBottom="true"

android:layout\_marginEnd="233dp"

android:layout\_marginBottom="553dp"

android:text=" Indian Cricket team"

android:textColor="#3B5998"

android:textStyle="bold"/>

</RelativeLayout>

MainActivity.java

package com.example.facebook;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

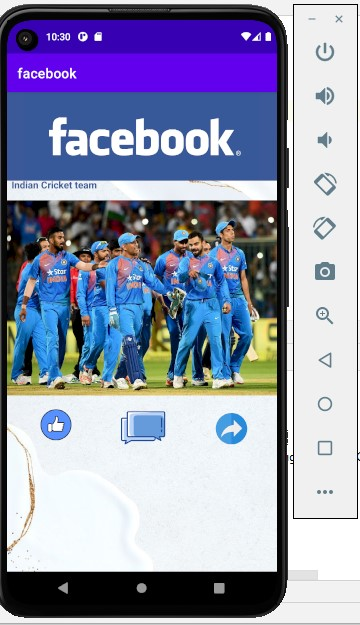
super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

}

}

**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);

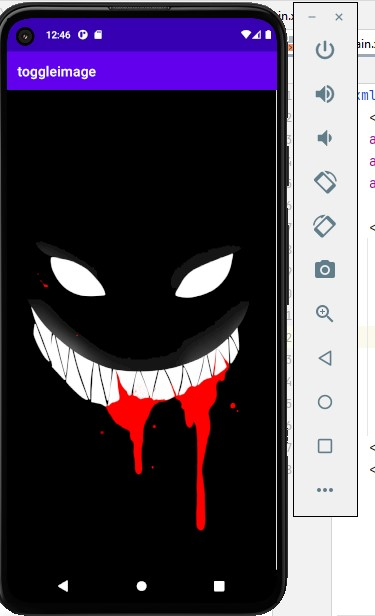
i1.setVisibility(v.VISIBLE);

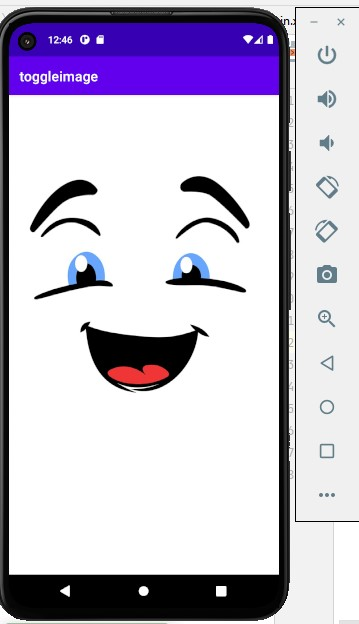
}

}

}

**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);

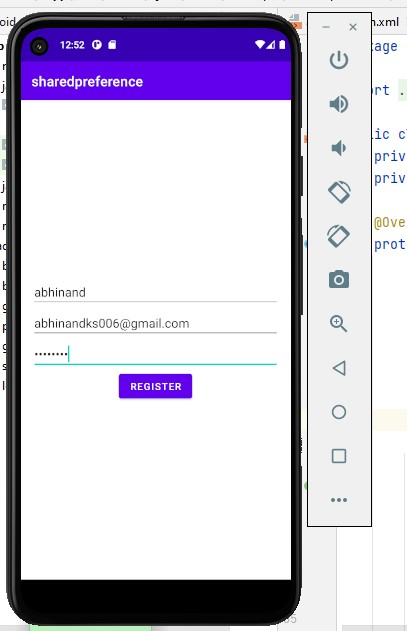
}

});

}

}

**Output**



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

**Experiment No. 8**

**Aim:** Develop an application that uses ArrayAdapter with ListView.

**CO3:** Develop applications with multiple activities using intents, array adapter, exceptions and options menu.

**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="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity" >

<ListView

android:id="@+id/dayLists"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent" />

</RelativeLayout>

MainActivity.java

package com.example.days;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.ListView;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements AdapterView.OnItemClickListener {

ListView l;

String [] days={"Sunday","Monday","Tuesday","Wednesday","Thursday","Friday","Saturday"};

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

l=findViewById(R.id.dayLists);

ArrayAdapter<String> adapter=new ArrayAdapter<String>(this, androidx.appcompat.R.layout.support\_simple\_spinner\_dropdown\_item,days);

l.setAdapter(adapter);

l.setOnItemClickListener(this);

}

@Override

public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {

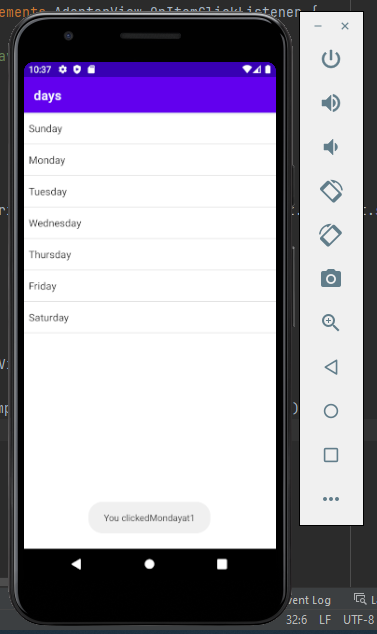
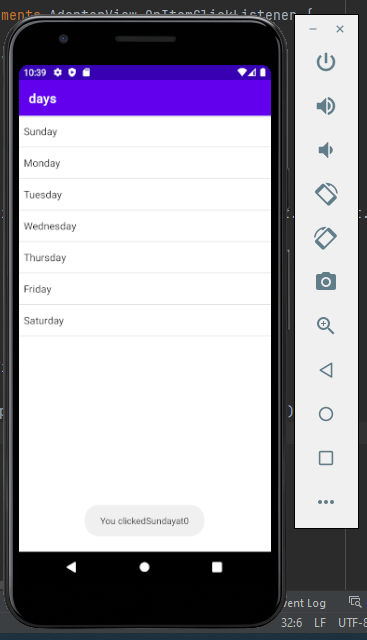
TextView temp=(TextView) view;

Toast.makeText(this,"You clicked"+temp.getText()+"at"+i,Toast.LENGTH\_LONG).show();

}

}

**Output**

** **

**Result :** The program was executed successfully and the output was obtained.

**Experiment No. 9**

**Aim:** Implement Intent to navigate between multiple activities

**CO3:** Develop applications with multiple activities using intents,

array adapter, exceptions and options menu.

**Procedure:**

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="activity1"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

<Button

android:id="@+id/button"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Button"

android:onClick="switchActivity"

tools:layout\_editor\_absoluteX="158dp"

tools:layout\_editor\_absoluteY="390dp" />

</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

package com.example.activity1;

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 switchActivity(View view){

Intent intent=new Intent(this, activity2.class);

intent.putExtra("user","anagha");

startActivity(intent);

}

}

activity\_2.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=".activity2">

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="activity2"

tools:layout\_editor\_absoluteX="172dp"

tools:layout\_editor\_absoluteY="354dp" />

</androidx.constraintlayout.widget.ConstraintLayout>

activity2.java

package com.example.activity1;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.widget.TextView;

public class activity2 extends AppCompatActivity {

TextView tv;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_2);

Intent intent=getIntent();

String user=intent.getStringExtra("user");

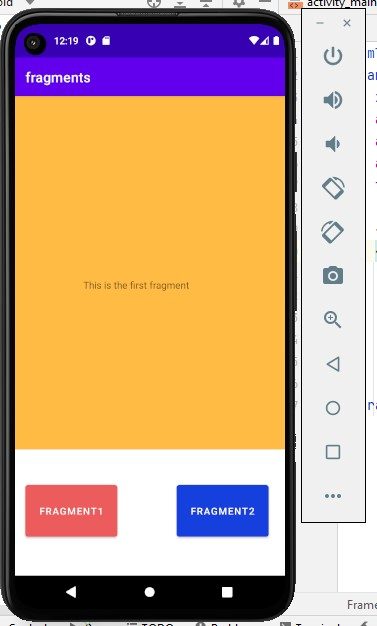
tv=findViewById(R.id.textView);

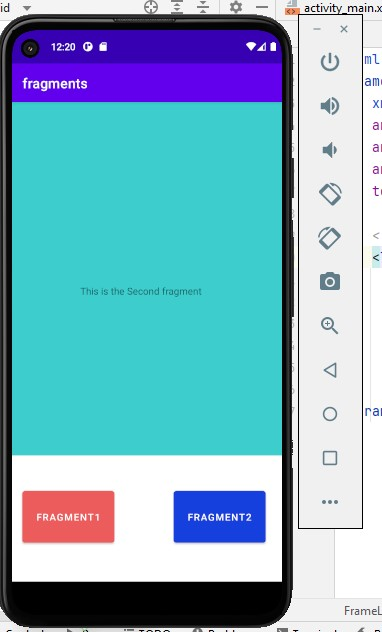
tv.setText(user);

}

}

**Output**





**Result :** The program was executed successfully and the output was obtained.

**Experiment No. 10**

**Aim:** Develop application that works with explicit intents

**CO3:** Develop applications with multiple activities using intents,

array adapter, exceptions and options menu.

**Procedure:**

Activitymain.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"

android:orientation="vertical"

android:padding="16dp"

android:gravity="center">

<EditText

android:id="@+id/e"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:inputType="text"

android:hint="enter the name" />

<EditText

android:id="@+id/e1"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:inputType="text"

android:hint="enter the age"/>

<Button

android:id="@+id/b1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_gravity="center"

android:onClick="switchActivity"

android:text="Submit" />

</LinearLayout>

Activitymain.java

package com.example.in3;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

}

public void switchActivity(View view) {

TextView text = findViewById(R.id.e);

TextView text2 = findViewById(R.id.e1);

String data=text.getText().toString();

String data2=text2.getText().toString();

//Create an Intent to start MainActivity2

Intent intent = new Intent(this, MainActivity2.class);

// Put the data into the Intent

intent.putExtra("key",data );

intent.putExtra("key2", data2);

// Start MainActivity2 with the Intent

startActivity(intent);

}

}

Activitymain 2.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"

android:orientation="vertical"

android:padding="16dp"

android:gravity="center">

<TextView

android:id="@+id/t1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="TextView"

tools:layout\_editor\_absoluteX="181dp"

tools:layout\_editor\_absoluteY="190dp" />

<TextView

android:id="@+id/t2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="TextView"

tools:layout\_editor\_absoluteX="175dp"

tools:layout\_editor\_absoluteY="237dp" />

</LinearLayout>

Activity main 2.java

package com.example.in3;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.widget.TextView;

public class MainActivity2 extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main2);

Intent intent = getIntent();

String receivedData = intent.getStringExtra("key");

String receivedData2 = intent.getStringExtra("key2");

// Display the received data in a TextView or do whatever you want with it

TextView data = findViewById(R.id.t1); // replace with the actual ID of your TextView

data.setText(receivedData);

TextView data2 = findViewById(R.id.t2); // replace with the actual ID of your TextView

data2.setText(receivedData2);

}

}

**Output**

**Result :** The program was executed successfully and the output was obtained.

**Experiment No. 11**

**Aim:** Develop an application that implements Spinner component and perform event

handling

**CO4:** Implement activities with dialogs, spinner, fragments and

navigation drawer by applying themes

**Procedure:**

Spin.xml

<?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="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<TextView

android:id="@+id/textview1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Hello World!"

android:layout\_marginTop="50dp"

android:layout\_marginLeft="150dp"/>

<Spinner

android:id="@+id/spinner2"

android:layout\_height="50dp"

android:layout\_width="200dp"

android:layout\_marginTop="100dp"

android:layout\_marginLeft="110dp"/>

</RelativeLayout>

Spin.java

package com.example.spin;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.Spinner;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

String []names = {"values1","values2","values3","value4","value5"};

String []text = {"values1 text","values2 text","values3 text","value4 text","value5 text"};

ArrayAdapter<String> adapter;

Spinner spinner;

TextView textView;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

spinner = findViewById(R.id.spinner2);

textView = findViewById(R.id.textview1);

adapter = new ArrayAdapter<String>(getApplicationContext(), android.R.layout.simple\_list\_item\_1,names);

spinner.setAdapter(adapter);

spinner.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {

@Override

public void onItemSelected(AdapterView<?> adapterView, View view, int i, long l) {

switch (i)

{

case 0:

textView.setText(""+text[i]);

break;

case 1:

textView.setText(""+text[i]);

break;

case 2:

textView.setText(""+text[i]);

break;

case 3:

textView.setText(""+text[i]);

break;

case 4:

textView.setText(""+text[i]);

break;

}

}

@Override

public void onNothingSelected(AdapterView<?> adapterView) {

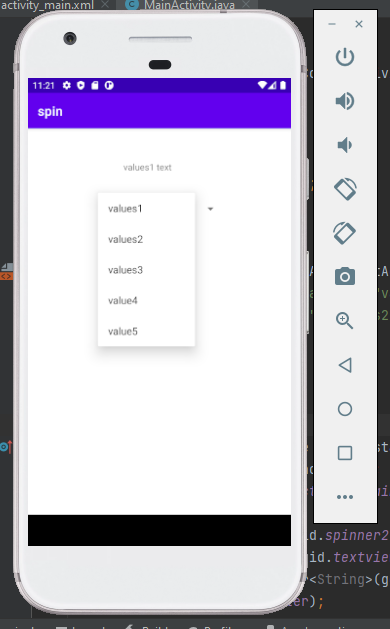
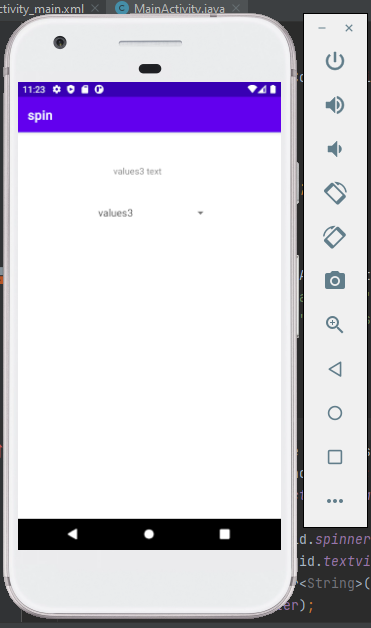
}

});

}

}

**Output**

** **

**Result :** The program was executed successfully and the output was obtained.

**Experiment No. 12**

**Aim:** Develop application using Fragments

**CO4:** Implement activities with dialogs, spinner, fragments and

navigation drawer by applying themes

**Procedure:**

activity\_main.xml

<?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="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity"

android:orientation="vertical">

<Button

android:id="@+id/button1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="150dp"

android:layout\_marginLeft="150dp"

android:text="Fragmnet1" />

<Button

android:id="@+id/button2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="250dp"

android:layout\_marginLeft="150dp"

android:text="Fragmernt2" />

<FrameLayout

android:id="@+id/frame"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent">

</FrameLayout>

</RelativeLayout>

MainActivity.java

package com.example.exp11;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Button buttonfragment1 = findViewById(R.id.button1);

Button buttonfragment2 = findViewById(R.id.button2);

buttonfragment1.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

getSupportFragmentManager().beginTransaction()

.replace(R.id.frame,new Fragment1())

.commit();

}

});

buttonfragment2.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

getSupportFragmentManager().beginTransaction()

.replace(R.id.frame,new Fragment2())

.commit();

}

});

}

}

Fragment\_1.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".Fragment1">

<!-- TODO: Update blank fragment layout -->

<TextView

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:text="hello\_blank\_fragment1" />

</FrameLayout>

Fragment1.java

package com.example.exp11;

import android.os.Bundle;

import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;

import android.view.View;

import android.view.ViewGroup;

/\*\*

\* A simple {@link Fragment} subclass.

\* Use the {@link Fragment1#newInstance} factory method to

\* create an instance of this fragment.

\*/

public class Fragment1 extends Fragment {

// TODO: Rename parameter arguments, choose names that match

// the fragment initialization parameters, e.g. ARG\_ITEM\_NUMBER

private static final String ARG\_PARAM1 = "param1";

private static final String ARG\_PARAM2 = "param2";

// TODO: Rename and change types of parameters

private String mParam1;

private String mParam2;

public Fragment1() {

// Required empty public constructor

}

/\*\*

\* Use this factory method to create a new instance of

\* this fragment using the provided parameters.

\*

\* @param param1 Parameter 1.

\* @param param2 Parameter 2.

\* @return A new instance of fragment Fragment1.

\*/

// TODO: Rename and change types and number of parameters

public static Fragment1 newInstance(String param1, String param2) {

Fragment1 fragment = new Fragment1();

Bundle args = new Bundle();

args.putString(ARG\_PARAM1, param1);

args.putString(ARG\_PARAM2, param2);

fragment.setArguments(args);

return fragment;

}

@Override

public void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

if (getArguments() != null) {

mParam1 = getArguments().getString(ARG\_PARAM1);

mParam2 = getArguments().getString(ARG\_PARAM2);

}

}

@Override

public View onCreateView(LayoutInflater inflater, ViewGroup container,

Bundle savedInstanceState) {

// Inflate the layout for this fragment

return inflater.inflate(R.layout.fragment\_1, container, false);

}

}

Fragment\_2.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

tools:context=".Fragment2">

<!-- TODO: Update blank fragment layout -->

<TextView

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:text="hello\_blank\_fragment2" />

</FrameLayout>

Fragment2.java

package com.example.exp11;

import android.os.Bundle;

import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;

import android.view.View;

import android.view.ViewGroup;

/\*\*

\* A simple {@link Fragment} subclass.

\* Use the {@link Fragment2#newInstance} factory method to

\* create an instance of this fragment.

\*/

public class Fragment2 extends Fragment {

// TODO: Rename parameter arguments, choose names that match

// the fragment initialization parameters, e.g. ARG\_ITEM\_NUMBER

private static final String ARG\_PARAM1 = "param1";

private static final String ARG\_PARAM2 = "param2";

// TODO: Rename and change types of parameters

private String mParam1;

private String mParam2;

public Fragment2() {

// Required empty public constructor

}

/\*\*

\* Use this factory method to create a new instance of

\* this fragment using the provided parameters.

\*

\* @param param1 Parameter 1.

\* @param param2 Parameter 2.

\* @return A new instance of fragment Fragment2.

\*/

// TODO: Rename and change types and number of parameters

public static Fragment2 newInstance(String param1, String param2) {

Fragment2 fragment = new Fragment2();

Bundle args = new Bundle();

args.putString(ARG\_PARAM1, param1);

args.putString(ARG\_PARAM2, param2);

fragment.setArguments(args);

return fragment;

}

@Override

public void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

if (getArguments() != null) {

mParam1 = getArguments().getString(ARG\_PARAM1);

mParam2 = getArguments().getString(ARG\_PARAM2);

}

}

@Override

public View onCreateView(LayoutInflater inflater, ViewGroup container,

Bundle savedInstanceState) {

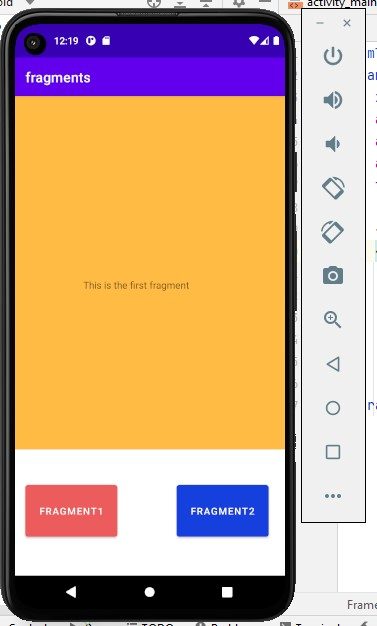
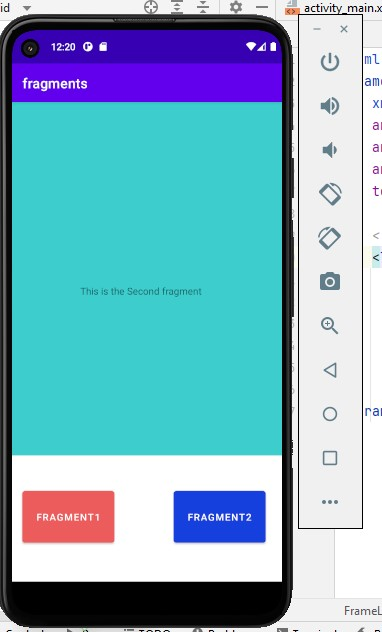
// Inflate the layout for this fragment

return inflater.inflate(R.layout.fragment\_2, container, false);

}

}

**Output**



**Result :** The program was executed successfully and the output was obtained.

**Experiment No. 13**

**Aim:**Implement Adapters and perform exception handling

**CO3:** Develop applications with multiple activities using intents,

array adapter, exceptions and options menu.

**Procedure:**

Activity\_main.xml

<?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="match\_parent"

android:layout\_height="match\_parent"

tools:context=".MainActivity">

<ListView

android:id="@+id/list"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"/>

</RelativeLayout>

MainActivity.java

package com.example.atry;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.Toast;

import java.util.ArrayList;

import java.util.List;

public class MainActivity extends AppCompatActivity {

List<String> list=new ArrayList();

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

list.add("ITEM 1");

list.add("ITEM 2");

list.add("ITEM 3");

list.add("ITEM 4");

for(int i=0;i<5;i++){

try{

list.get(i);

}

catch(Exception e){

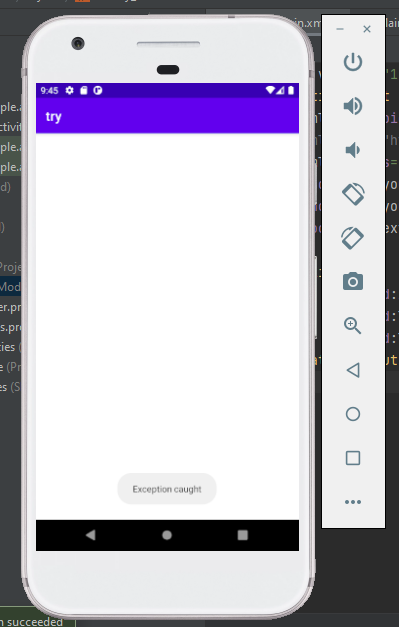
Toast.makeText(this,"Exception caught",Toast.LENGTH\_LONG).show();

}

}

}}

**Output**

****

**Result :** The program was executed successfully and the output was obtained.

**Experiment No. 14**

**Aim:**Apply themes via code and manifest file

**CO4:** Implement activities with dialogs, spinner, fragments and

navigation drawer by applying themes

**Procedure:**

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/EditText"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_margin="30dp"

android:text="Name"

tools:layout\_editor\_absoluteX="30dp"

tools:layout\_editor\_absoluteY="286dp" />

</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

package com.example.color;

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);

}

}

Colors.xml

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

<resources>

<color name="purple\_200">#FFBB86FC</color>

<color name="purple\_500">#FF6200EE</color>

<color name="purple\_700">#FF3700B3</color>

<color name="teal\_200">#FF03DAC5</color>

<color name="teal\_700">#FF018786</color>

<color name="black">#FF000000</color>

<color name="white">#FFFFFFFF</color>

<color name="colorPrimary">#ffa4a2</color>

<color name="color\_primary\_dark">#8c0032</color>

<color name="color\_accent">#aa00c7</color>

<color name="color\_text\_color\_primary">#66ffa6</color>

</resources>

themes.xml

<resources xmlns:tools="http://schemas.android.com/tools">

<!-- Base application theme. -->

<style name="Theme.Color" parent="Theme.MaterialComponents.DayNight.DarkActionBar">

<item name="colorPrimary">@color/colorPrimary</item>

<item name="colorPrimaryContainer">@color/color\_primary\_dark</item>

<item name="colorAccent">@color/color\_accent</item>

<item name="android:textColorPrimary">@color/color\_text\_color\_primary</item>

<item name="android:textSize">40dp</item>

</style>

</resources>

new\_style.xml

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

<resources>

<style name="Theme.new\_style" parent="Theme.MaterialComponents.DayNight.DarkActionBar">

<item name="colorPrimary">@color/colorPrimary</item>

<item name="colorPrimaryContainer">@color/color\_primary\_dark</item>

<item name="colorAccent">@color/color\_accent</item>

<item name="android:textColorPrimary">@color/color\_text\_color\_primary</item>

<item name="android:textSize">40dp</item>

</style>

</resources>

AndroidManifest.xml

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

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

xmlns:tools="http://schemas.android.com/tools"

package="com.example.color">

<application

android:allowBackup="true"

android:dataExtractionRules="@xml/data\_extraction\_rules"

android:fullBackupContent="@xml/backup\_rules"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/Theme.new\_style"

tools:targetApi="31">

<activity

android:name=".MainActivity"

android:exported="true">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

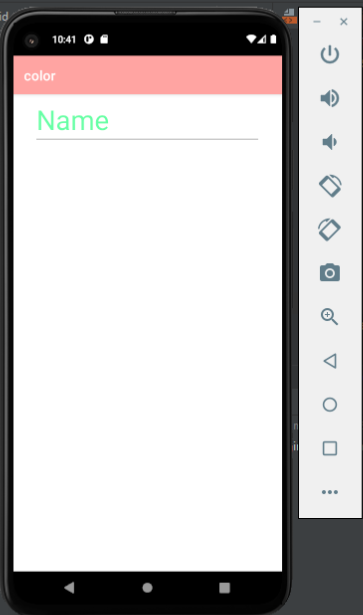
</intent-filter>

</activity>

</application>

</manifest>

**Output**

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**Result :** The program was executed successfully and the output was obtained.