**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**:

Xml code

<?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/editText1"

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/editText2"

android:layout\_width="215dp"

android:layout\_height="wrap\_content"

android:layout\_marginTop="8dp"

android:hint="Enter password" />

<Button

android:id="@+id/buttonLogin"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Login" />

</LinearLayout>

Java code

package com.example.new\_app;

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 buttonLogin;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

usernameEditText=findViewById(R.id.usernameEditText);

passwordEditText=findViewById(R.id.passwordEditText);

buttonLogin=findViewById(R.id.buttonLogin);

buttonLogin.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View 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);

}

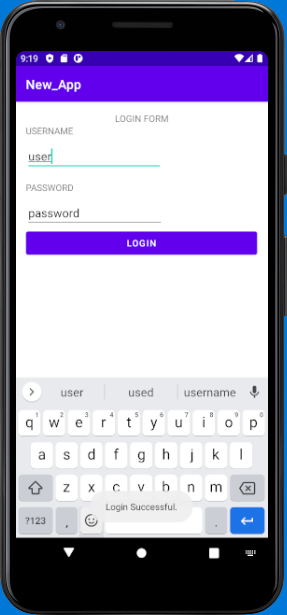
private void showToast(String message){

Toast.makeText(this,message,Toast.LENGTH\_SHORT).show();

}

}

**Output Screenshot**



**Result:**

The program was executed and the result was successfully obtained. Thus CO1 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.

**Procedure**:

Xml code

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

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

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

android:orientation="vertical"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:weightSum="100">

<TextView

android:id="@+id/heading"

android:layout\_gravity="center"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="20dp"

android:textStyle="bold"

android:textColor="@color/black"

android:textAlignment="center"

android:text="Simple Calculator" />

<TextView

android:id="@+id/result"

android:layout\_width="match\_parent"

android:layout\_height="80dp"

android:text="" />

<GridLayout

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_gravity="center"

android:columnCount="4"

android:rowCount="5"

android:orientation="horizontal"

android:useDefaultMargins="false"

android:layout\_weight="0">

<Button

android:id="@+id/button1"

android:text="1"

android:onClick="onDigitClick"/>

<Button

android:id="@+id/button2"

android:text="2"

android:onClick="onDigitClick"/>

<Button

android:id="@+id/button3"

android:text="3"

android:onClick="onDigitClick"/>

<Button

android:id="@+id/button\_a"

android:text="+"

android:onClick="onOperatorClick"/>

<Button

android:id="@+id/button4"

android:text="4"

android:onClick="onDigitClick"/>

<Button

android:id="@+id/button5"

android:text="5"

android:onClick="onDigitClick"/>

<Button

android:id="@+id/button6"

android:text="6"

android:onClick="onDigitClick"/>

<Button

android:id="@+id/button\_s"

android:text="-"

android:onClick="onOperatorClick"/>

<Button

android:id="@+id/button7"

android:text="7"

android:onClick="onDigitClick"/>

<Button

android:id="@+id/button8"

android:text="8"

android:onClick="onDigitClick"/>

<Button

android:id="@+id/button9"

android:text="9"

android:onClick="onDigitClick"/>

<Button

android:id="@+id/button\_m"

android:text="x"

android:onClick="onOperatorClick"/>

<Button

android:id="@+id/button0"

android:text="0"

android:onClick="onDigitClick"/>

<Button

android:id="@+id/button\_c"

android:text="AC"

android:onClick="onClearClick"/>

<Button

android:id="@+id/button\_d"

android:text="/"

android:onClick="onOperatorClick"/>

<Button

android:id="@+id/button\_eq"

android:text="="

android:onClick="onEqualClick"/>

</GridLayout>

</LinearLayout>

Java code

package com.example.calculator;

import android.os.Bundle;

import android.view.View;

import android.widget.EditText;

import android.widget.Button;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private TextView result;

private Button button1;

private Button button2;

private Button button3;

private Button button\_a;

private Button button4;

private Button button5;

private Button button6;

private Button button\_s;

private Button button7;

private Button button8;

private Button button9;

private Button button\_m;

private Button button0;

private Button button\_c;

private Button button\_d;

private Button button\_eq;

private String currentInput = "";

private double operand1 = 0;

private double operand2 = 0;

private String operator = "";

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

result=findViewById(R.id.result);

}

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 onEqualClick(View view) {

if (!currentInput.isEmpty()) {

double operand2 = Double.parseDouble(currentInput);

double result = performOperation(operand1, operand2,operator);

currentInput = String.valueOf(result);

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 onClearClick(View view) {

currentInput = "";

operand1 = 0;

operand2 = 0;

operator = "";

updateDisplay();

}

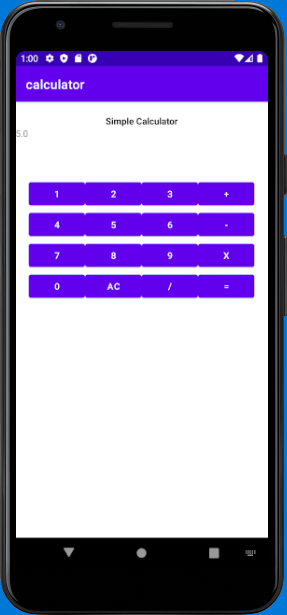
private void updateDisplay() {

result.setText(currentInput);

}

}

**Output Screenshot**



**Result:**

The program was executed and the result was successfully obtained. Thus CO1 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**:

Xml code

<LinearLayout

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"

android:orientation="vertical"

android:padding="16dp"

tools:context=".MainActivity">

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Activity Lifecycle"

android:textSize="24sp"

android:layout\_gravity="center\_horizontal"

android:layout\_marginTop="16dp"/>

<Button

android:id="@+id/btnCreate"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="onCreate()"/>

<Button

android:id="@+id/btnStart"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="onStart()"/>

<Button

android:id="@+id/btnPause"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="onPause()"/>

<Button

android:id="@+id/btnStop"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="onStop()"/>

<Button

android:id="@+id/btnRestart"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="onRestart()"/>

<Button

android:id="@+id/btnDestroy"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="onDestroy()"/>

</LinearLayout>

Java code

package com.example.myapplication\_activitylifecycle;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.Toast;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

private TextView textView;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Button btnCreate = findViewById(R.id.btnCreate);

Button btnStart = findViewById(R.id.btnStart);

Button btnPause = findViewById(R.id.btnPause);

Button btnStop = findViewById(R.id.btnStop);

Button btnRestart = findViewById(R.id.btnRestart);

Button btnDestroy = findViewById(R.id.btnDestroy);

btnCreate.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Toast.makeText(getApplicationContext(), "onCreate() called", Toast.LENGTH\_LONG).show();

}

});

btnStart.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Toast.makeText(getApplicationContext(), "onStart() called", Toast.LENGTH\_LONG).show();

}

});

btnPause.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Toast.makeText(getApplicationContext(), "onPause() called", Toast.LENGTH\_LONG).show();

}

});

btnStop.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Toast.makeText(getApplicationContext(), "onStop() called", Toast.LENGTH\_LONG).show(); }

});

btnRestart.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Toast.makeText(getApplicationContext(), "onRestart() called", Toast.LENGTH\_LONG).show();

}

});

btnDestroy.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Toast.makeText(getApplicationContext(), "onDestroy() called", Toast.LENGTH\_LONG).show();

}

});

}

}

**Output Screenshot**



**Result:**

The program was executed and the result was successfully obtained. Thus CO1 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.

**Procedure**:

Xml code

<LinearLayout 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:orientation="vertical" >

<RelativeLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content" >

<Button

android:id="@+id/button1"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Relative Layout" />

</RelativeLayout>

<GridLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:columnCount="2"

android:rowCount="2" >

<Button

android:id="@+id/button2"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Grid Layout" />

</GridLayout>

<FrameLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content" >

<Button

android:id="@+id/button3"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Frame Layout" />

</FrameLayout>

<androidx.constraintlayout.widget.ConstraintLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content">

<Button

android:id="@+id/button4"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintBottom\_toBottomOf="parent"

android:text="Constrained Layout" />

</androidx.constraintlayout.widget.ConstraintLayout>

<TableLayout

android:id="@+id/tableLayout1"

android:layout\_width="match\_parent"

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

<TableRow

android:id="@+id/tableRow1"

android:gravity="center\_horizontal">

<Button

android:id="@+id/button5"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Table Layout"/>

</TableRow>

</TableLayout>

</LinearLayout>

Java code

package com.example.uilayout;

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);

}

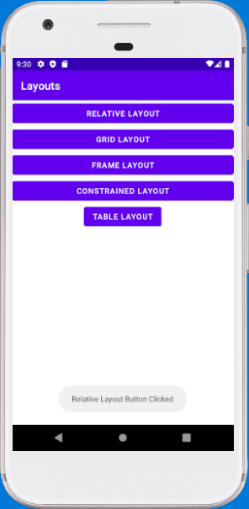
private void displayToken(String layoutName) {

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

}

}

**Output Screenshot**

 A screenshot of a cell phone

Description automatically generated A screenshot of a cell phone

Description automatically generated A screenshot of a cell phone

Description automatically generated A screenshot of a cell phone

Description automatically generated

**Result:**

The program was executed and the result was successfully obtained. Thus CO1 was obtained.

**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**:

Xml code

<?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>

Java code

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() {

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() {

public void onClick(View v) {

showToast("You clicked the Share button");

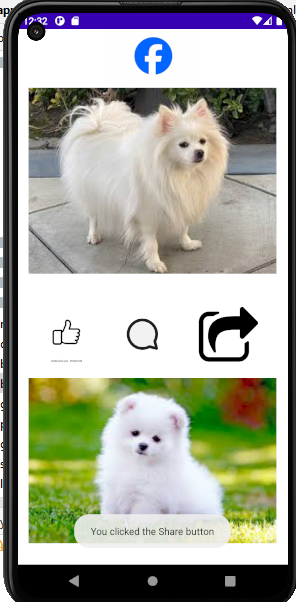
} }); }

// Helper method to display a toast message

private void showToast(String message) {

Toast.makeText(this, message, Toast.LENGTH\_SHORT).show(); }}

**Output Screenshot**



**Result:**

The program was executed and the result was successfully obtained. Thus CO1 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**:

Xml code

<?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>

Java code

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);

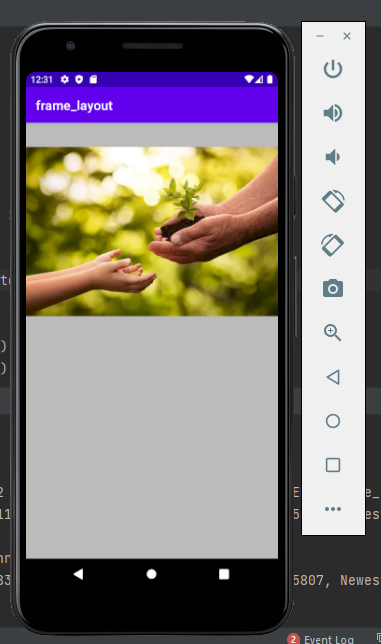
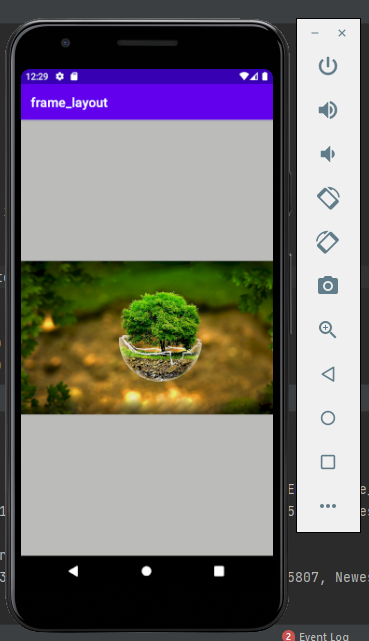
i1.setVisibility(v.VISIBLE);

}

}

}

**Output Screenshot**

**Result:**

The program was executed and the result was successfully obtained. Thus CO1 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**:

Xml code

<?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>

Java code

package com.example.exp7;

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);

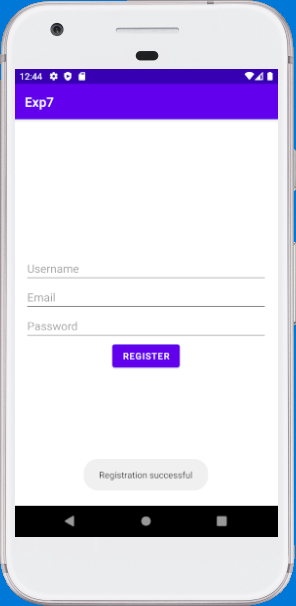
}

});

}

}

**Output Screenshot**



**Result:**

The program was executed and the result was successfully obtained. Thus CO2 was obtained.

**Experiment No.: 8**

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

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

**Procedure**:

Xml code

<?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/weeks"

android:layout\_width="400dp"

android:layout\_height="354dp"

tools:ignore="Missing Constraint"/>

</RelativeLayout>

Java code

package com.example.weeks;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.ListView;

import android.view.View;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements AdapterView.OnItemClickListener{

ListView lists;

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

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

lists=findViewById(R.id.weeks);

ArrayAdapter<String> adapter=new ArrayAdapter<String>(this,android.R.layout.simple\_spinner\_dropdown\_item,days);

lists.setAdapter(adapter);

lists.setOnItemClickListener(this);

}

@Override

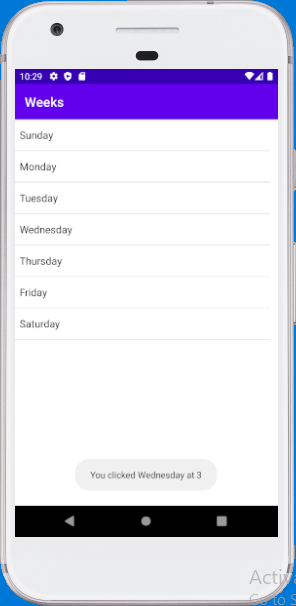
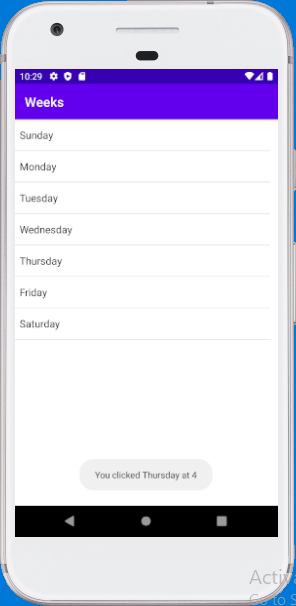
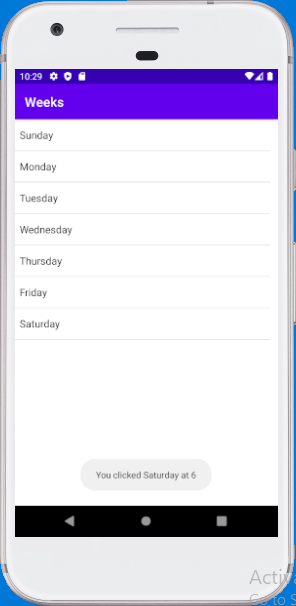
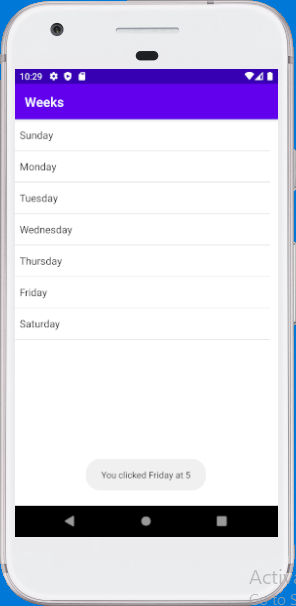
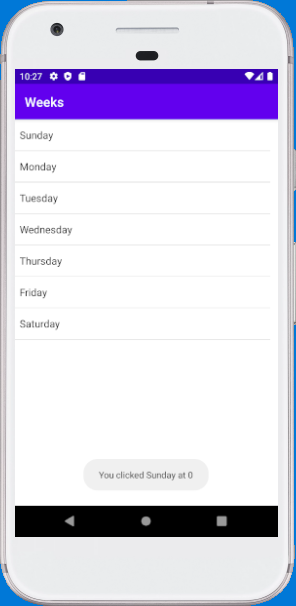
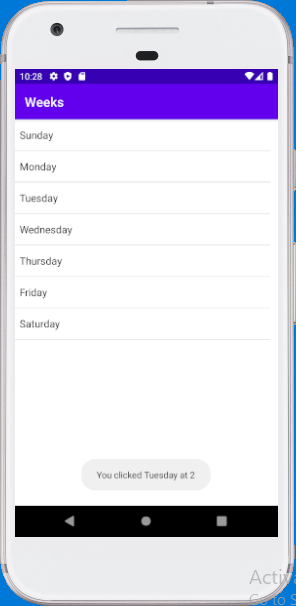
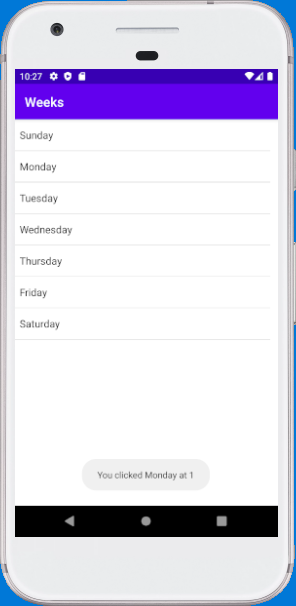
public void onItemClick(AdapterView<?> adapterView, View view, int position, long id) {

TextView temp=(TextView) view;

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

}}

**Output Screenshot**

**Result:**

The program was executed and the result was successfully obtained. Thus CO3 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**:

Xml1

<?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="Activity 1"

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:onClick="switchActivity"

android:text="Button"

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

tools:layout\_editor\_absoluteY="388dp" />

</androidx.constraintlayout.widget.ConstraintLayout>

Xml2

<?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/textView1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Activity 2"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

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

</androidx.constraintlayout.widget.ConstraintLayout>

Java1

package com.example.intent;

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","Hazbi");

startActivity(intent);

}

}

Java2

package com.example.intent;

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");

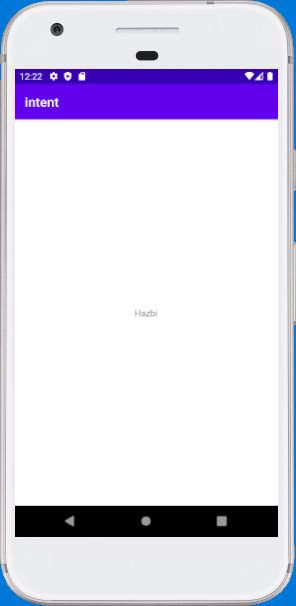
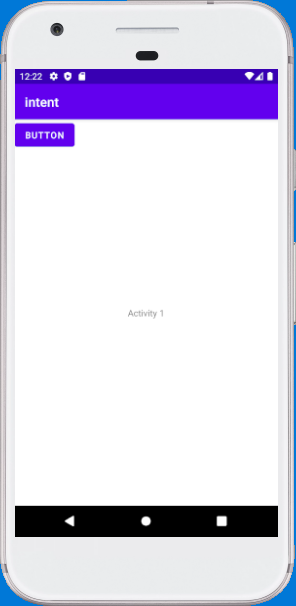
tv=findViewById(R.id.textView1);

tv.setText(user);

}

}

**Output Screenshot**

****

**Result:**

The program was executed and the result was successfully obtained. Thus CO3 was obtained.

**Experiment No.: 10**

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

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

**Procedure**:

xml1

<?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">

<Button

android:id="@+id/button"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginLeft="160dp"

android:layout\_marginTop="160dp"

android:onClick="switchActivity"

android:text="Button" />

<EditText

android:id="@+id/name"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:ems="10"

android:hint="Enter your name"

android:layout\_marginLeft="110dp"

android:layout\_marginTop="60dp" />

<EditText

android:id="@+id/age"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:ems="10"

android:layout\_marginLeft="110dp"

android:hint="Enter your age"

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

</RelativeLayout>

xml2

<?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/textView1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

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

</androidx.constraintlayout.widget.ConstraintLayout>

java1

package com.example.intent;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

EditText name;

EditText age;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

name = findViewById(R.id.name);

age = findViewById(R.id.age);

}

public void switchActivity(View view) {

Intent intent=new Intent(this, Activity2.class);

intent.putExtra("user",name.getText().toString());

intent.putExtra("age",age.getText().toString());

startActivity(intent);

}

}

java2

package com.example.intent;

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");

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

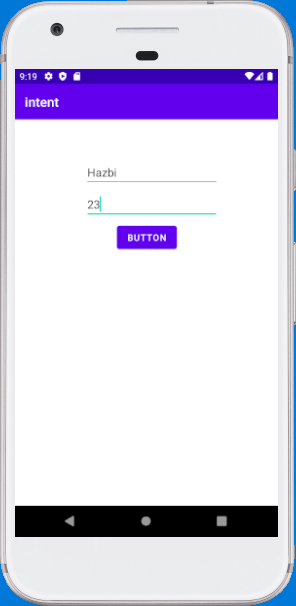
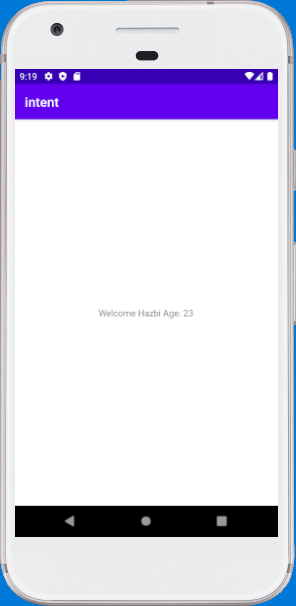
tv=findViewById(R.id.textView1);

tv.setText("Welcome "+user+" Age: "+age);

}

}

**Output Screenshot**

** **

**Result:**

The program was executed and the result was successfully obtained. Thus CO3 was obtained.

**Experiment No.: 11**

**Aim:** Develop an application that implements spinner component and perform event handling.

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

**Procedure**:

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>

java

package com.example.spinner;

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={"Value1","Value2","Value3","Value4"};

String[] text={"Value1 Text","Value2 Text","Value3 Text","Value4 Text"};

ArrayAdapter<String> adapter;

Spinner spinner2;

TextView textview1;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

spinner2=findViewById(R.id.spinner2);

textview1=findViewById(R.id.textview1);

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

spinner2.setAdapter(adapter);

spinner2.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {

@Override

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

switch (i){

case 0:

textview1.setText(""+text[i]);

break;

case 1:

textview1.setText(""+text[i]);

break;

case 2:

textview1.setText(""+text[i]);

break;

case 3:

textview1.setText(""+text[i]);

break;

}

}

@Override

public void onNothingSelected(AdapterView<?> adapterView) {

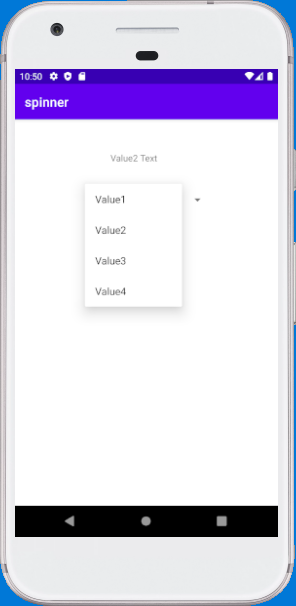
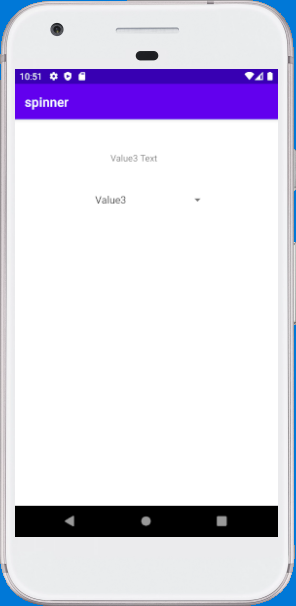
}

});

}

}

**Output Screenshot**

** **

**Result:**

The program was executed and the result was successfully obtained. Thus CO3 was obtained.

**Experiment No.: 12**

**Aim:** Develop applications using fragments.

**CO4:** Implement activities with dialogues,spinner,fragments and navigation drawer by applying themes.

**Procedure**:

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:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Fragments"

android:textStyle="bold"

android:textSize="40dp"

android:layout\_centerHorizontal="true"

android:layout\_marginTop="30dp"/>

<Button

android:id="@+id/fragment1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Fragment1"

android:textSize="20dp"

android:layout\_marginTop="100dp"

android:layout\_centerHorizontal="true"/>

<Button

android:id="@+id/fragment2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Fragment2"

android:textSize="20dp"

android:layout\_marginTop="150dp"

android:layout\_centerHorizontal="true"/>

<FrameLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:id="@+id/layout1">

</FrameLayout>

</RelativeLayout>

java

package com.example.fragments;

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.fragment1);

Button buttonFragment2=findViewById(R.id.fragment2);

buttonFragment1.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

getSupportFragmentManager().beginTransaction()

.replace(R.id.layout1,new firstfragment())

.commit();

}

});

buttonFragment2.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

getSupportFragmentManager().beginTransaction()

.replace(R.id.layout1,new secondfragment())

.commit();

}

});

}

}

fragments

Fragment1

@Override

public View onCreateView(LayoutInflater inflater, ViewGroup container,

Bundle savedInstanceState) {

// Inflate the layout for this fragment

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

}

Fragment2

@Override

public View onCreateView(LayoutInflater inflater, ViewGroup container,

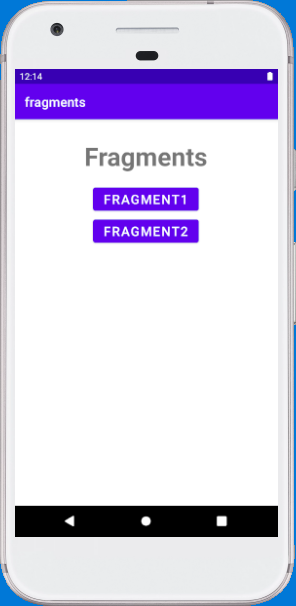
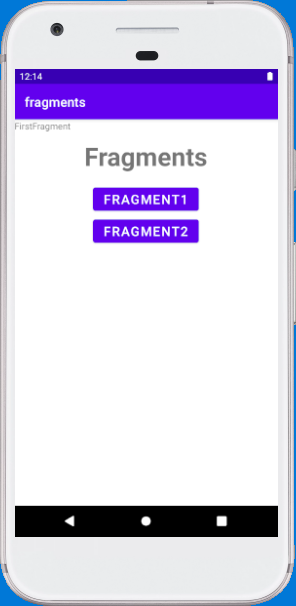
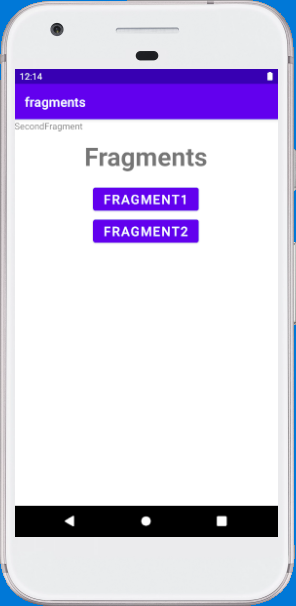
Bundle savedInstanceState) {

// Inflate the layout for this fragment

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

}

**Output Screenshot**

**  **

**Result:**

The program was executed and the result was successfully obtained. Thus CO4 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**:

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/listview"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Hello World!" />

</RelativeLayout>

java

package com.example.exp13;

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("List1");

list.add("List2");

list.add("List3");

list.add("List4");

try{

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

list.get(i);

}

}catch (Exception e){

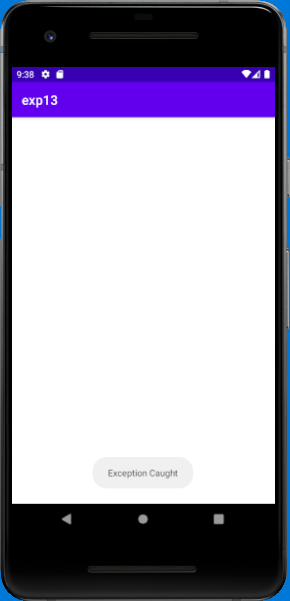
Toast.makeText(this, "Exception Caught", Toast.LENGTH\_LONG).show();

}

}

}

**Output Screenshot**

****

**Result:**

The program was executed and the result was successfully obtained. Thus CO4 was obtained.

**Experiment No.: 14**

**Aim:**.

**CO3:**

**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/editTextname"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Name"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

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

</androidx.constraintlayout.widget.ConstraintLayout>

**Activity\_main.java**

package com.example.theme;

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);

}

}

**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.theme">

<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>

**colors.xml**

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

<resources>

<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>

**new\_style.xml**

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

<resources>

<!-- Base application theme. -->

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

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

<item name="colorPrimaryDark">@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>

**themes.xml**

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

<!-- Base application theme. -->

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

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

<item name="colorPrimaryDark">@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>

**themes.xml(night)**

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

<!-- Base application theme. -->

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

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

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

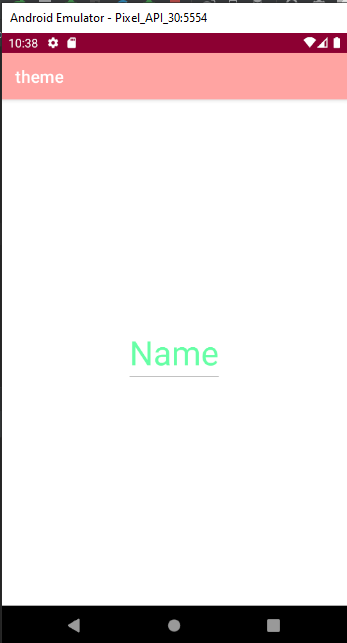
<item name="colorAccent">@color/color\_accent</item>

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

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

</style></resources>

**Output Screenshot**

****

**Result:**

The program was executed and the result was successfully obtained. Thus CO4 was obtained.

**Experiment No.: 15**

**Aim:**.

**CO3:**

**Procedure**:

XML code

<?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/tv1"

android:layout\_centerHorizontal="true"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:textColor="@color/black"

android:text="Student Details"

android:textSize="15sp" />

<EditText

android:id="@+id/et1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:hint="Enter rollno"

android:layout\_centerHorizontal="true"

android:layout\_margin="18dp"

android:layout\_below="@+id/tv1"/>

<EditText

android:id="@+id/et2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:hint="Enter name"

android:layout\_centerHorizontal="true"

android:layout\_margin="18dp"

android:layout\_below="@+id/et1"/>

<EditText

android:id="@+id/et3"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_below="@+id/et2"

android:layout\_centerHorizontal="true"

android:layout\_marginStart="18dp"

android:layout\_marginTop="22dp"

android:layout\_marginEnd="18dp"

android:layout\_marginBottom="18dp"

android:hint="Enter department" />

<Button

android:id="@+id/bt1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Insert"

android:onClick="onInsert"

android:layout\_centerHorizontal="true"

android:layout\_margin="10dp"

android:layout\_below="@+id/et3"/>

<Button

android:id="@+id/bt2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Update"

android:onClick="onUpdate"

android:layout\_centerHorizontal="true"

android:layout\_margin="10dp"

android:layout\_below="@+id/bt1"/>

<Button

android:id="@+id/bt3"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Read"

android:onClick="onRead"

android:layout\_centerHorizontal="true"

android:layout\_margin="10dp"

android:layout\_below="@+id/bt2"/>

<Button

android:id="@+id/bt4"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Delete"

android:onClick="onDelete"

android:layout\_centerHorizontal="true"

android:layout\_margin="10dp"

android:layout\_below="@+id/bt3"/>

</RelativeLayout>

JAVA code

package com.example.sqlite;

import androidx.appcompat.app.AppCompatActivity;

import android.content.ContentValues;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

TextView tv1;

EditText et1,et2,et3;

Button bt1,bt2,bt3,bt4;

String rno;

String name;

String dept;

SQLiteDatabase db;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

tv1 = findViewById(R.id.tv1);

et1 = findViewById(R.id.et1);

et2 = findViewById(R.id.et2);

et3 = findViewById(R.id.et3);

bt1 = findViewById(R.id.bt1);

bt2 = findViewById(R.id.bt2);

bt3 = findViewById(R.id.bt3);

bt4 = findViewById(R.id.bt4);

DbHelper dbHelper = new DbHelper(this);

db = dbHelper.getWritableDatabase();

db = dbHelper.getReadableDatabase();

}

public void onInsert(View view) {

rno = et1.getText().toString();

name = et2.getText().toString();

dept = et3.getText().toString();

if (rno.equals("") || name.equals("") || dept.equals("")) {

Toast.makeText(this,"please enter values",Toast.LENGTH\_LONG).show();

}

else {

ContentValues values = new ContentValues();

values.put("rollno",rno);

values.put("name",name);

values.put("dept",dept);

db.insert("student",null,values);

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

}

}

public void onUpdate(View view) {

rno = et1.getText().toString();

name = et2.getText().toString();

dept = et3.getText().toString();

if (rno.equals("") || name.equals("") || dept.equals("")) {

Toast.makeText(this,"please enter values",Toast.LENGTH\_LONG).show();

}

else {

ContentValues values = new ContentValues();

values.put("rollno",rno);

values.put("name",name);

values.put("dept",dept);

db.update("student",values,"rollno="+rno,null);

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

}

}

public void onRead(View view) {

StringBuffer buffer = new StringBuffer();

Cursor c=db.rawQuery("select \* from student",null);

while (c.moveToNext())

{

buffer.append("\n"+c.getString(0));

buffer.append("\n"+c.getString(1));

buffer.append("\n"+c.getString(2));

}

Toast.makeText(this,buffer.toString(), Toast.LENGTH\_SHORT).show();

}

public void onDelete(View view) {

rno = et1.getText().toString();

name = et2.getText().toString();

dept = et3.getText().toString();

if (rno.equals(""))

{

Toast.makeText(this, "Pls enter value", Toast.LENGTH\_LONG).show();

}

else

{

db.delete("student","rollno="+rno,null);

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

}

}

}

DBHelper code

package com.example.sqlite;

import android.content.Context;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;

import androidx.annotation.Nullable;

public class DbHelper extends SQLiteOpenHelper {

public DbHelper(@Nullable Context context) {

super(context, "student.db", null, 1);

}

@Override

public void onCreate(SQLiteDatabase sqLiteDatabase) {

sqLiteDatabase.execSQL("create table student(rollno int,name varchar(20),dept varchar(5))");

}

@Override

public void onUpgrade(SQLiteDatabase sqLiteDatabase, int i, int i1) {

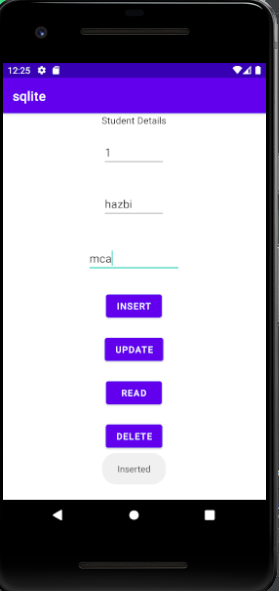
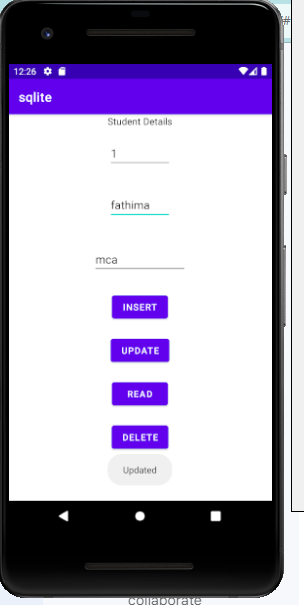
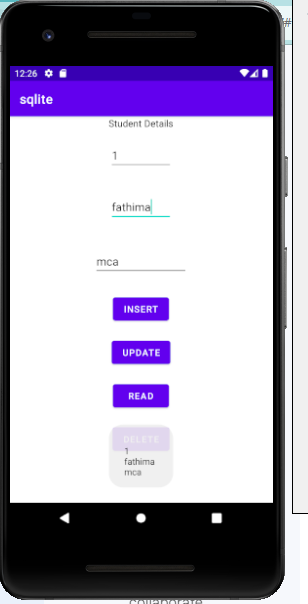
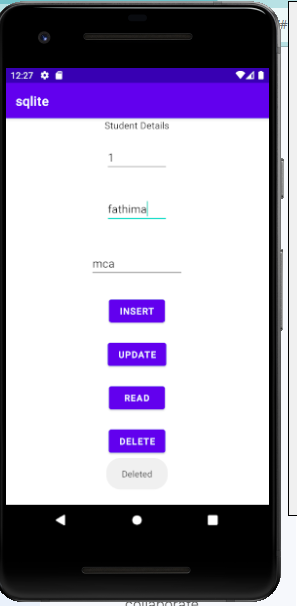
sqLiteDatabase.execSQL("drop table if exists student");

onCreate(sqLiteDatabase);

}

}

**Output Screenshot**

**   **

**Result:**

The program was executed and the result was successfully obtained. Thus CO4 was obtained.

**Experiment No.: 15**

**Aim:**.

**CO3:**

**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="Home Page"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

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

</androidx.constraintlayout.widget.ConstraintLayout>

Mainactivity.java

package com.example.optionsmenu;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.Menu;

import android.view.MenuInflater;

import android.view.MenuItem;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

}

@Override

public boolean onCreateOptionsMenu(Menu menu) {

MenuInflater inflater=getMenuInflater();

inflater.inflate(R.menu.menu\_main,menu);

return super.onCreateOptionsMenu(menu);

}

@Override

public boolean onOptionsItemSelected(@NonNull MenuItem item) {

switch (item.getItemId())

{

case R.id.settings:

Intent intent=new Intent(MainActivity.this,SettingsPage.class);

startActivity(intent);

break;

case R.id.about:

Toast.makeText(this, "You Clicked About Menu", Toast.LENGTH\_LONG).show();

break;

case R.id.msgs:

Toast.makeText(this, "You Clicked Starred Messages Menu", Toast.LENGTH\_LONG).show();

break;

}

return super.onOptionsItemSelected(item);

}

}

activity\_settings\_page.xml

package com.example.optionsmenu;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.Menu;

import android.view.MenuInflater;

import android.view.MenuItem;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

}

@Override

public boolean onCreateOptionsMenu(Menu menu) {

MenuInflater inflater=getMenuInflater();

inflater.inflate(R.menu.menu\_main,menu);

return super.onCreateOptionsMenu(menu);

}

@Override

public boolean onOptionsItemSelected(@NonNull MenuItem item) {

switch (item.getItemId())

{

case R.id.settings:

Intent intent=new Intent(MainActivity.this,SettingsPage.class);

startActivity(intent);

break;

case R.id.about:

Toast.makeText(this, "You Clicked About Menu", Toast.LENGTH\_LONG).show();

break;

case R.id.msgs:

Toast.makeText(this, "You Clicked Starred Messages Menu", Toast.LENGTH\_LONG).show();

break;

}

return super.onOptionsItemSelected(item);

}

}

SettingsPage.java

package com.example.optionsmenu;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class SettingsPage extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_settings\_page);

}

}

menu\_main.xml

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

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

<item

android:id="@+id/settings"

android:title="Settings" />

<item

android:id="@+id/about"

android:title="About" />

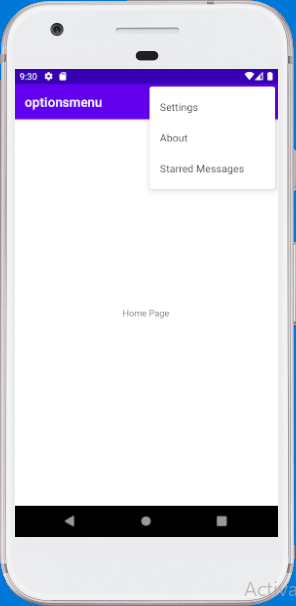
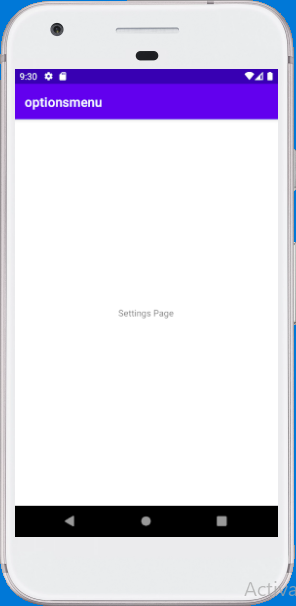
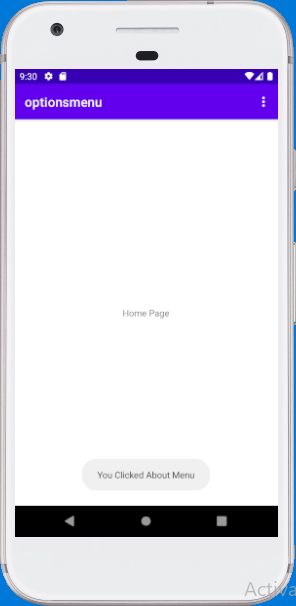
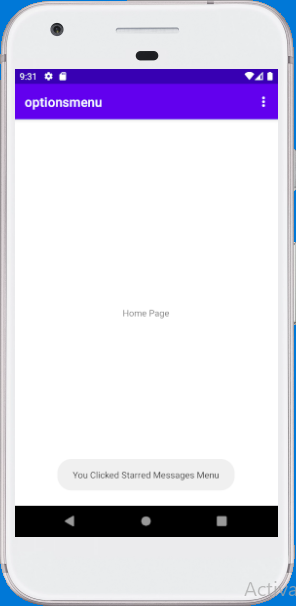
<item

android:id="@+id/msgs"

android:title="Starred Messages" />

</menu>

**Output Screenshot**

**Result:**

The program was executed and the result was successfully obtained. Thus CO3 was obtained.