

MOUNT ZION COLLEGE OF ENGINEERING

Kadammanitta – Pathanamthitta Kerala 689649

(Affiliated to APJ Abdul Kalam Technological University)



20MCA243 MOBILE APPLICATION DEVELOPMENT LAB LABORATORY RECORD

SECOND YEAR

Submitted by

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MZC22MCA-2001

Submitted in partial fulfillment of the requirement for the

Award of the Degree

of

MASTER OF COMPUTER APPLICATIONS

(2022-2024)

Department of Computer Applications

MOUNT ZION COLLEGE OF ENGINEERING, KADAMMANITTA

MOUNT ZION COLLEGE OF ENGINEERING

Kadammanitta – Pathanamthitta Kerala 689649

(Affiliated to APJ Abdul Kalam Technological University)



CERTIFICATE

Certified that this is a bonafide record of practical work done in Mobile Application Development Lab (20MCA243) Laboratory by ARJUN M ANIL Reg No: MZC22MCA-2001 of Mount Zion College of Engineering, Kadammanitta – Pathanamthitta during the academic year 2022-2024.

Head of the department

Staff member in-charge

Submitted to the University Examination held on

External Examiner

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CO1 PROGRAMS

REPORT ON LABORATORY WORK

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

Aim:

Create a Simple Android Toast with a Message Welcome to Android.

Main Activity.java

```
package com.example.toasttrial;

import android.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);

        Toast.makeText(getApplicationContext(),"Hello welcome to

Android",Toast.LENGTH_LONG).show(); }}
```

Output

toast trial

Hello World!

Hello welcome to android

Result/Observation

Successfully completed the android program and output is obtained.

Mark:

Viva(5)	Performance(5)	Total(10)

Assessor:

PROGRAM NO. 2

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM

Find Sum of Two Numbers and Display the Value on Toast.

GUI DESIGN

activity_main.xml

```
<?xmlversion="1.0"encoding="utf-8"?>

<LinearLayout

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:orientation="vertical"

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

    <EditText

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:id="@+id/entry1"/>

    <EditText

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:id="@+id/entry2"/>

    <Button

        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:id="@+id/button"

        android:text="Add"/>
```

```
</LinearLayout>
```

MainActivity.java

```
public class MainActivity extends AppCompatActivity

{
private EditText value1,value2;
private Button sum;

@Override
protected void onCreate(Bundle savedInstanceState)

{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    addListenerOnButton();
}

public void addListenerOnButton()

{
    value1=(EditText)findViewById(R.id.entry1);
    value2=(EditText)findViewById(R.id.entry2);
    sum=(Button)findViewById(R.id.button);
    sum.setOnClickListener(new View.OnClickListener()

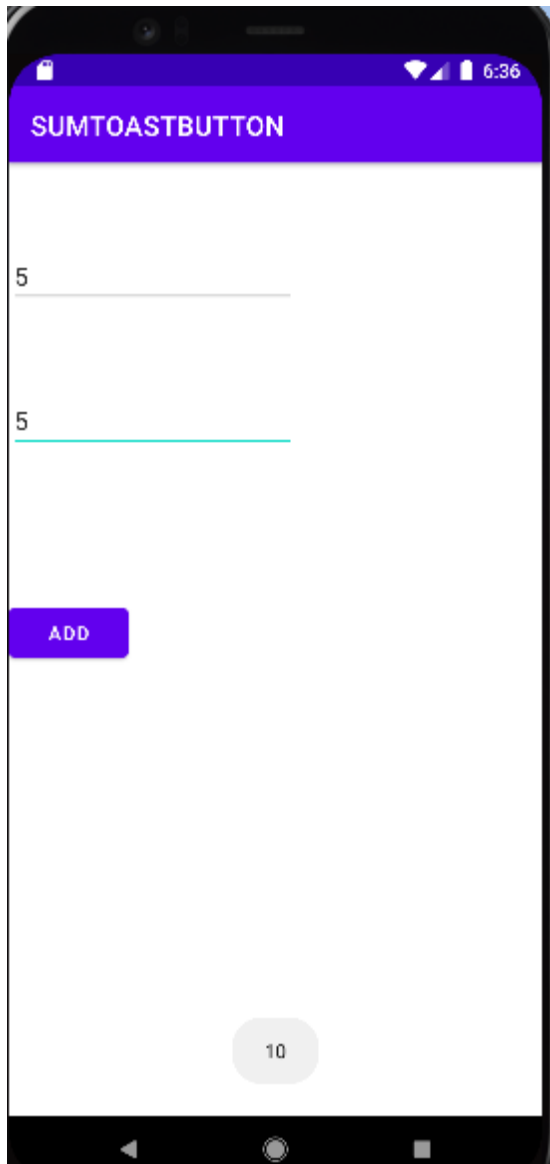
    {

        @Override
        public void onClick(View v) {
            String e1=value1.getText().toString();
            String e2=value2.getText().toString();
            int a=Integer.parseInt(e1);
```



```
int b=Integer.parseInt(e2);  
int sum=a+b;  
  
Toast.makeText(getApplicationContext(),String.valueOf(sum),Toast.LENGTH_LONG).show(  
);  
  
}  
  
});  
  
}  
  
}
```

Output:



Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

PROGRAM NO:3

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

Aim:

Create a Login Page with Username and Password and Toast the Values.

GUI DESIGN

activity_main.xml

```
<LinearLayout android:layout_height="match_parent"
    android:layout_width="match_parent"
    android:orientation="vertical"
    xmlns:android="http://schemas.android.com/apk/res/android">
    <EditText
        android:layout_width="match_parent"
        android:textColor="@color/black"
        android:layout_height="wrap_content"
        android:hint="Enter user name"
        android:layout_margin="10dp"
        android:id="@+id/usr"/>
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter password"
        android:inputType="textPassword"
        android:textColor="@color/black"
        android:id="@+id/pass"
        android:layout_margin="10dp"/>
```

```

<androidx.appcompat.widget.AppCompatButton
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/btn"
    android:layout_margin="10dp"
    android:text="SUBMIT"
    android:textColor="@color/black"/>

</LinearLayout>

```

MainActivity.java

```

package com.example.loginpage;

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

public class MainActivity extends AppCompatActivity

{
    EditText ed1,ed2;
    AppCompatButton b1;
    String getUser,getPass;
    @Override
    protected void onCreate(Bundle savedInstanceState)

    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ed1=(EditText) findViewById(R.id.usr);
        ed2=(EditText) findViewById(R.id.pass);
        b1=(AppCompatButton) findViewById(R.id.btn);
        b1.setOnClickListener(new View.OnClickListener() {

```

```
        @Override
        public void onClick(View v) {
            getUser=ed1.getText().toString();
            getPass=ed2.getText().toString();
            Toast.makeText(getApplicationContext(),getUser,Toast.LENGTH_LONG).show();
            Toast.makeText(getApplicationContext(),getPass,Toast.LENGTH_LONG).show();

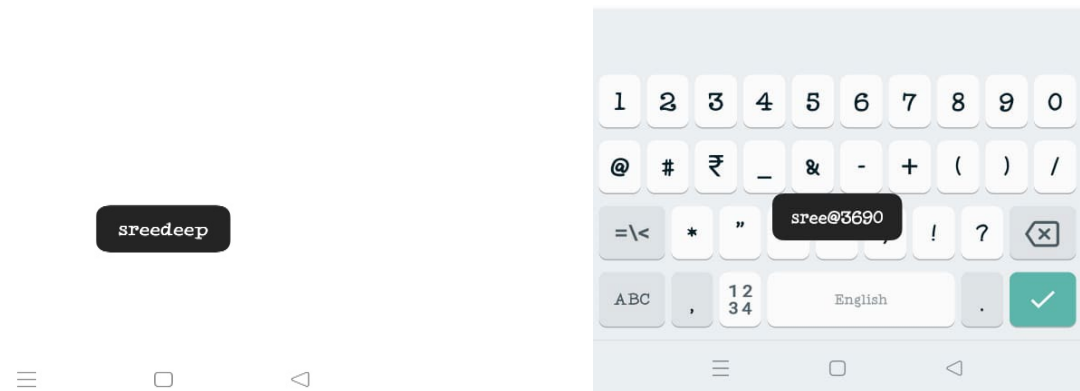
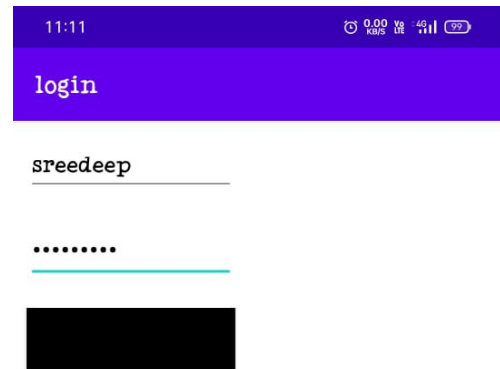
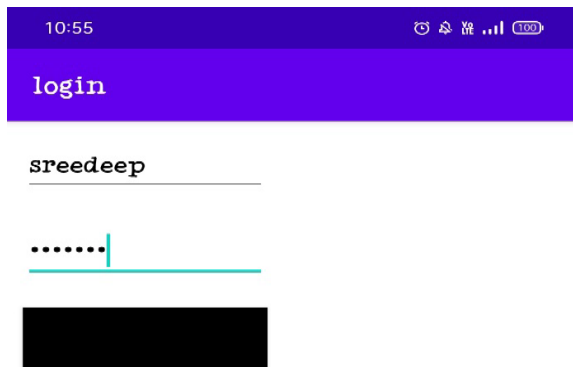
        }

    });

}

}
```

OUTPUT



Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

PROGRAM NO:4

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM:

Create Program to Demonstrate Activity Lifecycle.

GUI DESIGN

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayoutxmlns:android="http://schemas.android.c
om/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 Lifecycle"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.activitylifecycle;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d("Activity_Lifecycle","onCreate invoked");
        Toast.makeText(MainActivity.this,"Created",Toast.LENGTH_LONG).show();
    }

    @Override
    protected void onStart(){
        super.onStart();

        Log.d("Activity_Lifecycle","onStart invoked");
        Toast.makeText(MainActivity.this, "Start", Toast.LENGTH_SHORT).show();
    }

    @Override
    protected void onResume(){
        super.onResume();

        Log.d("Activity_Lifecycle","onResume invoked");
        Toast.makeText(MainActivity.this,"Resume",Toast.LENGTH_LONG).show();
    }

    @Override
    protected void onPause(){
        super.onPause();

        Log.d("Activity_Lifecycle","onPause invoked");
        Toast.makeText(MainActivity.this,"Pause",Toast.LENGTH_LONG).show();
    }
}
```



```

    }

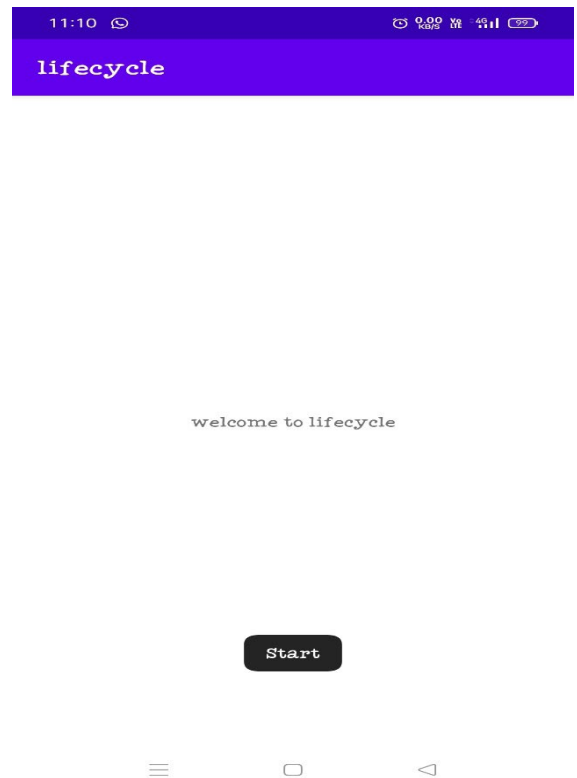
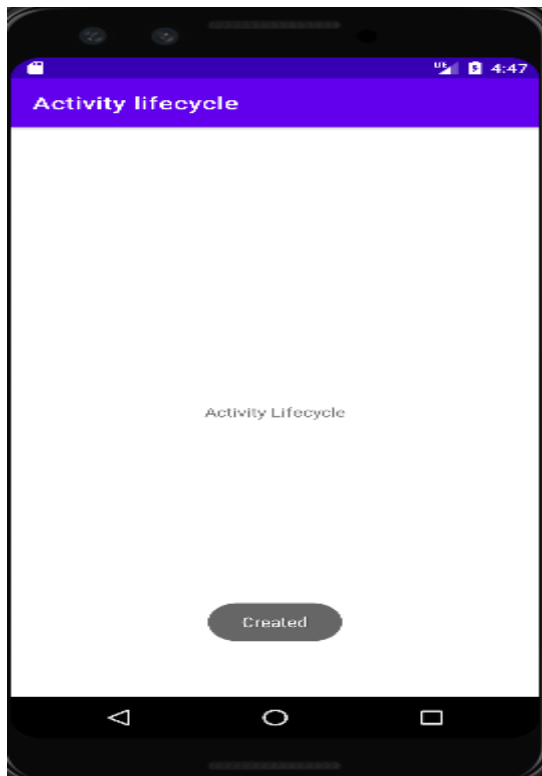
    @Override
    protected void onStop() {
super.onStop();
        Log.d("Activity_Lifecycle", "onStop invoked");
        Toast.makeText(MainActivity.this, "Stop", Toast.LENGTH_LONG).show();
    }

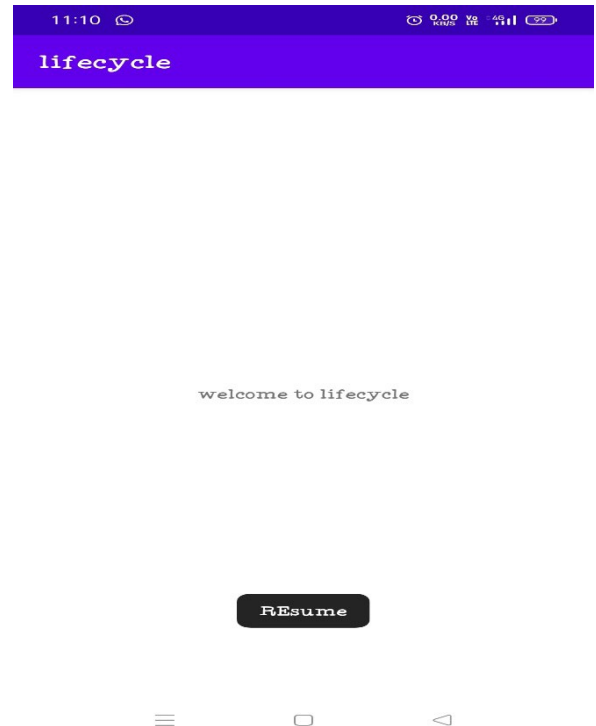
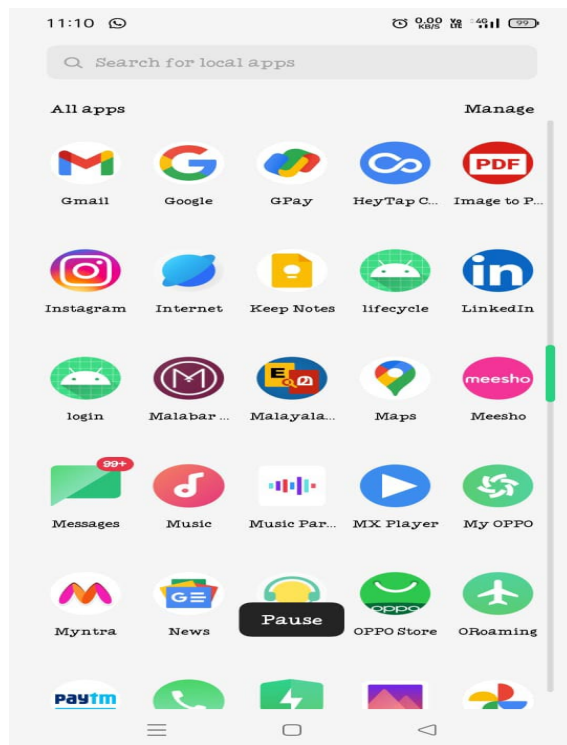
    @Override
    protected void onRestart() {
super.onRestart();
        Log.d("Activity_Lifecycle", "onRestart invoked");
        Toast.makeText(MainActivity.this, "Restart", Toast.LENGTH_LONG).show();
    }

    @Override
    protected void onDestroy() {
super.onDestroy();
        Log.d("Activity_Lifecycle", "onDestroy invoked");
        Toast.makeText(MainActivity.this, "Destroy", Toast.LENGTH_LONG).show();
    }

```

OUTPUT:





Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

PROGRAM NO:5

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM:

Create an Android Application for Implementing a Basic Calculator.

GUL DESIGN

activity_main.xml

```
<LinearLayout
    android:layout_height="match_parent"
    android:layout_width="match_parent"
    android:orientation="vertical"
    xmlns:android="http://schemas.android.com/apk/res/android" >

<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter First Number"
    android:inputType="number"
    android:id="@+id/fno"
    android:layout_margin="10dp"
    android:textColor="@color/black"/>

<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter Second Number"
    android:inputType="number"
    android:id="@+id/sno"
    android:layout_margin="10dp"
    android:textColor="@color/black"/>
```

```
<androidx.appcompat.widget.AppCompatButton
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="+"
    android:id="@+id/add"
android:layout_margin="10dp"
    android:textColor="@color/black"/>
```

```
<androidx.appcompat.widget.AppCompatButton
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="-"
    android:id="@+id/sub"
android:layout_margin="10dp"
    android:textColor="@color/black"/>
```

```
<androidx.appcompat.widget.AppCompatButton
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="/"
    android:id="@+id/div"
android:layout_margin="10dp"
    android:textColor="@color/black"/>
```

```
<androidx.appcompat.widget.AppCompatButton
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="*"
    android:id="@+id/multi"
android:layout_margin="10dp"
    android:textColor="@color/black"/>
```

```

<androidx.appcompat.widget.AppCompatButton
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="clear"
    android:id="@+id/clear"
android:layout_margin="10dp"
    android:textColor="@color/black"/>

```

```

<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="result:"
    android:id="@+id/res"
android:layout_margin="10dp"
    android:textColor="@color/black"/>
</LinearLayout>

```

MainActivity.java

```

package com.example.calculator;

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

public class MainActivity extends AppCompatActivity {
    EditText ed1,ed2,ed3;
    AppCompatButton b1,b2,b3,b4,b5;
    // String getResult;

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

```

```

ed1=(EditText) findViewById(R.id.fno);
ed2=(EditText) findViewById(R.id.sno);
ed3=(EditText) findViewById(R.id.res);
b1=(AppCompatActivity) findViewById(R.id.add);
b2=(AppCompatActivity) findViewById(R.id.sub);
b3=(AppCompatActivity) findViewById(R.id.div);
b4=(AppCompatActivity) findViewById(R.id.multi);
b5=(AppCompatActivity) findViewById(R.id.clear);
b1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
if(ed1.getText().length()>0 &&(ed2.getText().length()>0))
        {
            int first=Integer.parseInt(ed1.getText().toString());

            int second=Integer.parseInt(ed2.getText().toString());
            int result=first+second;
            ed3.setText(Integer.toString(result));
        }
    }
});
b2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if(ed1.getText().length()>0 &&(ed2.getText().length()>0))
        {
            double first=Double.parseDouble(ed1.getText().toString());
            double second=Double.parseDouble(ed2.getText().toString());
            double result=first-second;
            ed3.setText(Double.toString(result));
        }

    }
});

```

```

b3.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if(ed1.getText().length()>0 &&(ed2.getText().length()>0))
        {
            double first=Double.parseDouble(ed1.getText().toString());
            double second=Double.parseDouble(ed2.getText().toString());
            double result=first/second;
            ed3.setText(Double.toString(result));
        }

    }
});

b4.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if(ed1.getText().length()>0 &&(ed2.getText().length()>0))
        {
            double first=Double.parseDouble(ed1.getText().toString());
            double second=Double.parseDouble(ed2.getText().toString());
            double result=first*second;
            ed3.setText(Double.toString(result));
        }

    }
});

b5.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        ed1.setText("");
        ed2.setText("");
        ed3.setText("");
    }
});

```

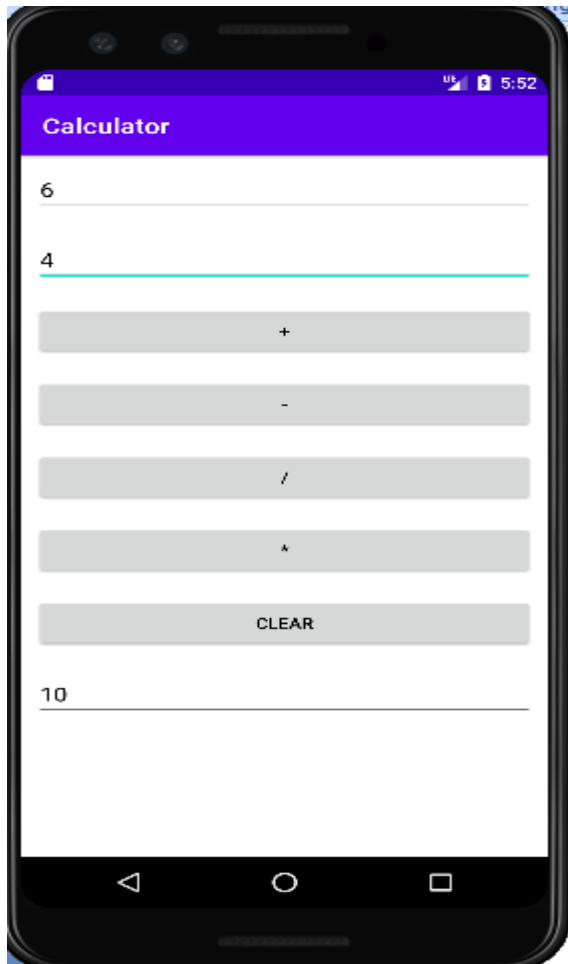


```

    }
    }); }
}

```

OUTPUT



Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

PROGRAM – 6

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM

Android Program To Implement Validations on Various UI Controls

GUI DESIGN

activity_main.xml

```
<?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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity"
    tools:ignore="HardcodedText">

    <EditText

        android:id="@+id/firstName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="16dp"
        android:layout_marginTop="16dp"
        android:layout_marginEnd="16dp"
        android:hint="First Name"
        android:inputType="text" />

    <EditText

        android:id="@+id/lastName"
```

```

        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="16dp"
        android:layout_marginTop="16dp"
        android:layout_marginEnd="16dp"
        android:hint="Last Name"
        android:inputType="text" />
<EditText
    android:id="@+id/email"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="16dp"
    android:hint="Email"
    android:inputType="textEmailAddress" />
<EditText
    android:id="@+id/password"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="16dp"
    android:hint="Password"
    android:inputType="textPassword" />

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="8dp"

```

```

        android:gravity="end"
        android:orientation="horizontal">
<Button
    android:id="@+id/cancelButton"
    style="@style/Widget.AppCompat.Button.Borderless"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="4dp"
    android:text="CANCEL"
    android:textColor="@color/design_default_color_primary" />
<Button
    android:id="@+id/proceedButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="16dp"
    android:backgroundTint="@color/design_default_color_primary"
    android:text="PROCEED"
    android:textColor="@android:color/white"
    tools:ignore="ButtonStyle" />
</LinearLayout>
</LinearLayout>

```

activity_main2.xml

```

<RelativeLayout
    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=".MainActivity2"
    tools:ignore="HardcodedText">

```

```

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerInParent="true"
    android:text="ACTIVITY 2"
    android:textSize="18sp" />
</RelativeLayout>

```

MainActivity.java

```

package com.example.ui;

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

public class MainActivity extends AppCompatActivity {

    Button bCancel, bProceed;
    EditText etFirstName, etLastName, etEmail, etPassword;

    boolean isAllFieldsChecked=false;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        bProceed = findViewById(R.id.proceedButton);
        bCancel = findViewById(R.id.cancelButton);
    }
}

```

```

etFirstName = findViewById(R.id.firstName);
etLastName = findViewById(R.id.lastName);
etEmail = findViewById(R.id.email);
etPassword = findViewById(R.id.password);

bProceed.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        isAllFieldsChecked=isAllFieldsCheckedCheckAllFields();
        if (isAllFieldsChecked) {
            Intent i = new Intent(MainActivity.this, MainActivity2.class);
            startActivity(i);
        }
    }
});

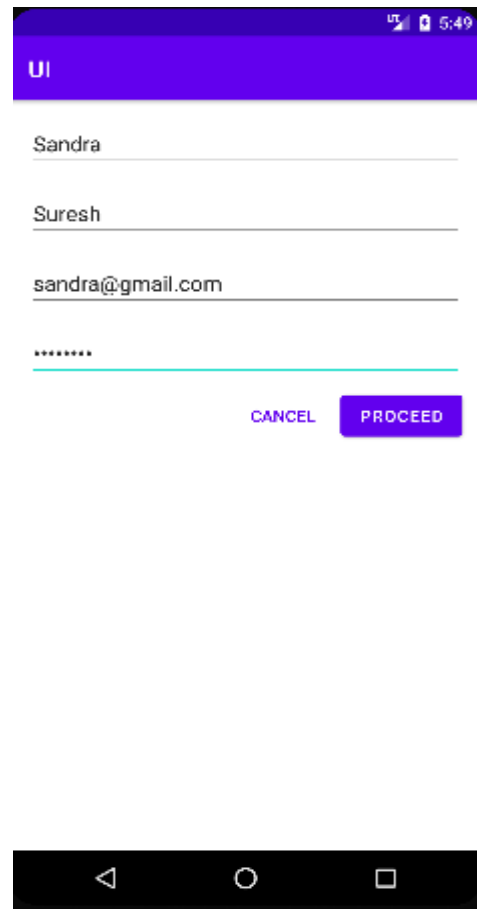
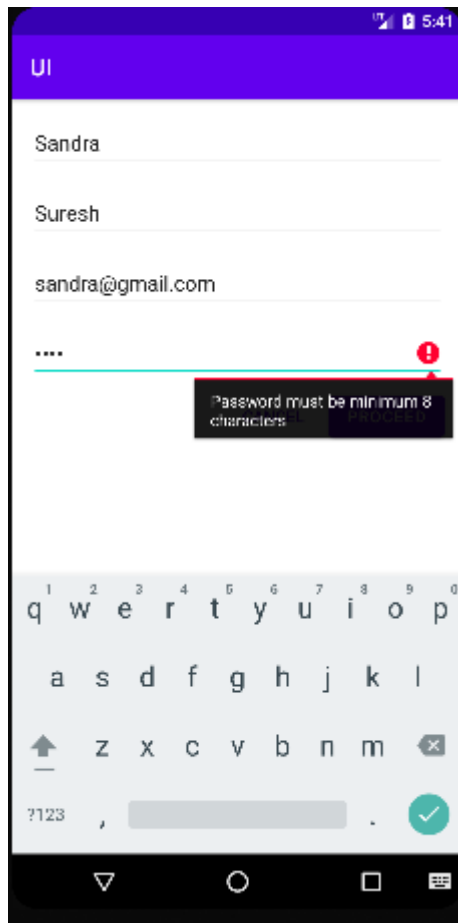
bCancel.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        MainActivity.this.finish();
        System.exit(0);
    }
});
}

private boolean isAllFieldsCheckedCheckAllFields() {
    if (etFirstName.length() == 0) {
        etFirstName.setError("This field is required");
        return false;
    }
    if (etLastName.length() == 0) {
        etLastName.setError("This field is required");
    }
}

```

```
        return false;
    }
    if (etEmail.length() == 0) {
        etEmail.setError("Email is required");
        return false;
    }
    if (etPassword.length() == 0) {
        etPassword.setError("Password is required");
        return false;
    } else if (etPassword.length() < 8) {
        etPassword.setError("Password must be minimum 8 characters");
        return false;
    }
    return true;
}
}
```

Output





Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

CO2 PROGRAMS

PROGRAM –7

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM

Android to Demonstrate The Use of Implicit Intent

GUI DESIGN

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"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent" />
```

```

<Button
    android:id="@+id/btn"
    android:text="Search"
    android:onClick="search"
    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_toBottomOf="@+id/editText" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Mainactivity Java. File

```

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

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {

        EditText editText;
        Button button;
    }
}

```

```

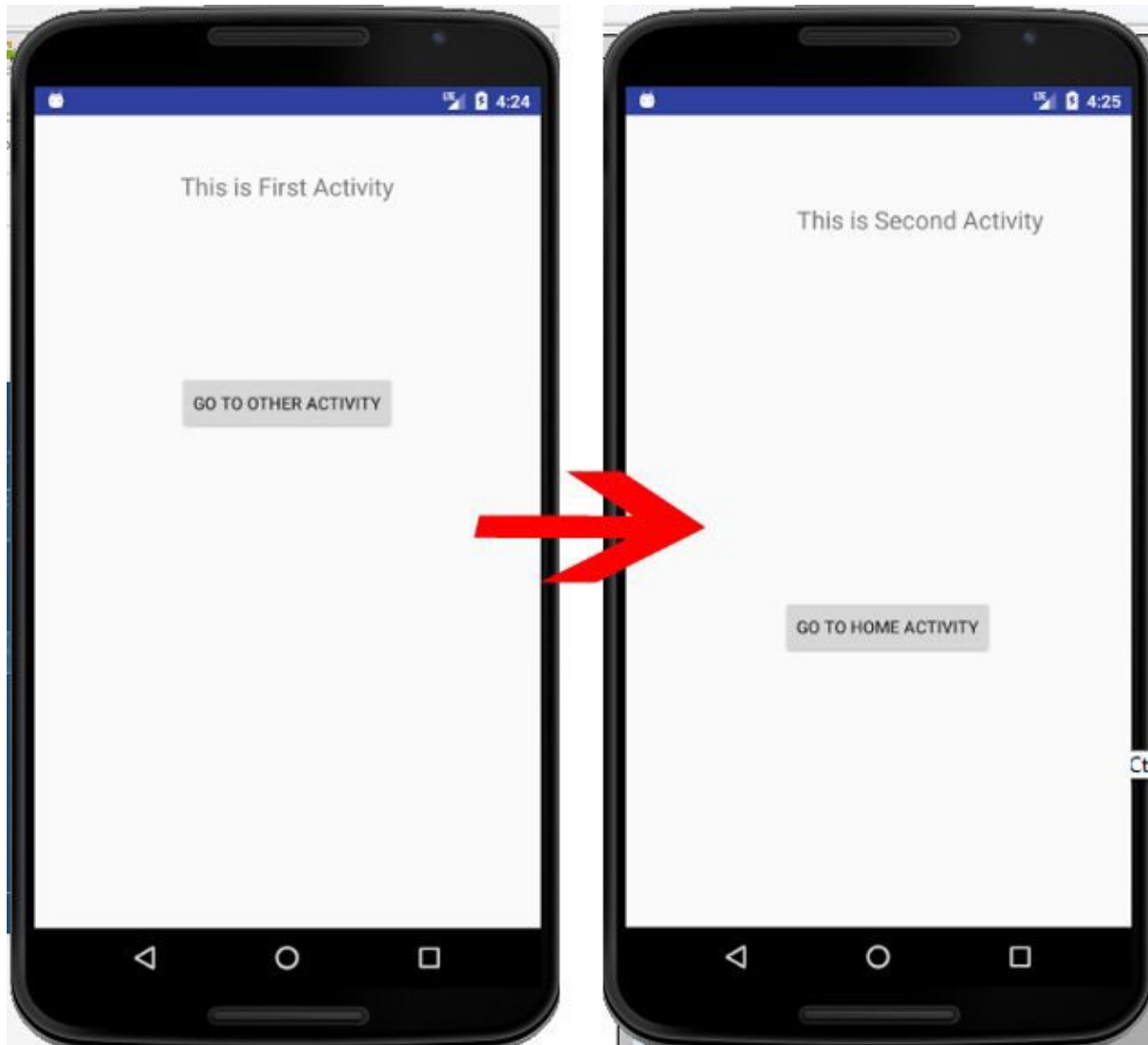
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        button = findViewById(R.id.btn);
        editText = (EditText) findViewById(R.id.editText);

        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String url=editText.getText().toString();
                Intent intent = new Intent(Intent.ACTION_VIEW,
Uri.parse(url));
                startActivity(intent);
            }
        });
    }
}

```

OUTPUT



Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

PROGRAM –8

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM

Android Program To Demonstrate Explicit Intent.

GUI DESIGN

activity_main.xml

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

    <TextView
        android:id="@+id/editText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Welcome to Home Screen"
        android:textAlignment="center"
        android:textSize="28sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/btn1"
        android:text="Go to News Screen"
        android:onClick="newsScreen"
        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_toBottomOf="@+id/editText" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java

```

package com.example.intent;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.content.Intent;
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 newsScreen(View view) {
        Intent i = new Intent(getApplicationContext(), MainActivity2.class);
        startActivity(i);
    }
}

```

activity_main2.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity2">

    <TextView
        android:id="@+id/editText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Welcome to GFG News Screen"
        android:textAlignment="center"

```



```

        android:textSize="28sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

<Button
    android:id="@+id/btn2"
    android:text="Go to Home Screen"
    android:onClick="homeScreen"
    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_toBottomOf="@+id/editText" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Main Activity2.java

```

package com.example.intent;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;

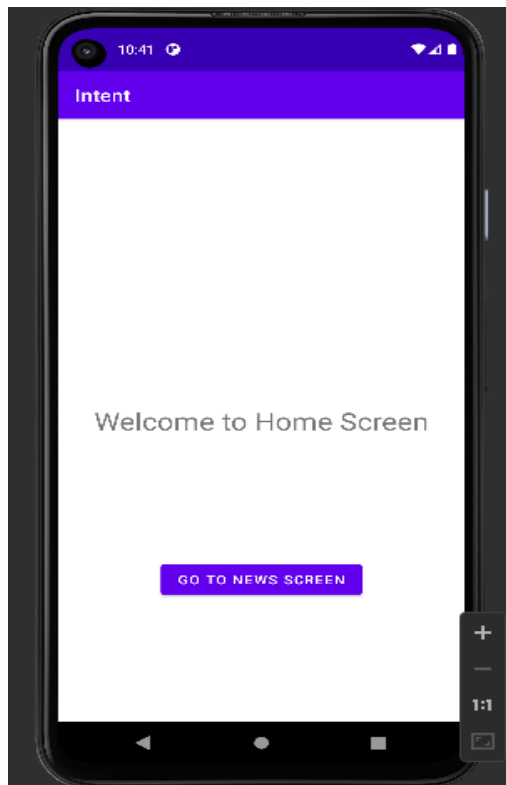
public class MainActivity2 extends AppCompatActivity {

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

    public void homeScreen(View view) {
        Intent i = new Intent(getApplicationContext(), MainActivity.class);
        startActivity(i);
    }
}

```

OUTPUT



Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

PROGRAM –9

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM

Create a Facebook Page using RelativeLayout; set properties using .xml file.

GUI DESIGN

activity_main.xml:

```
<LinearLayout android:layout_width="match_parent" android:layout_height="match_parent"
    android:orientation="vertical"
    xmlns:android="http://schemas.android.com/apk/res/android">

    <ImageView
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:layout_gravity="center"
        android:layout_marginTop="80dp"
        android:src="@drawable/fb_logo"
    />

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="20dp"
        android:layout_marginTop="80dp"
        android:layout_marginRight="20dp"
        android:backgroundTint="#d3d3d3"
        android:hint="Username or Email"
        android:inputType="textEmailAddress"
        android:maxLines="1"
        android:padding="10dp"
        android:textColor="#ffffff"
        android:textColorHint="#d3d3d3"/>

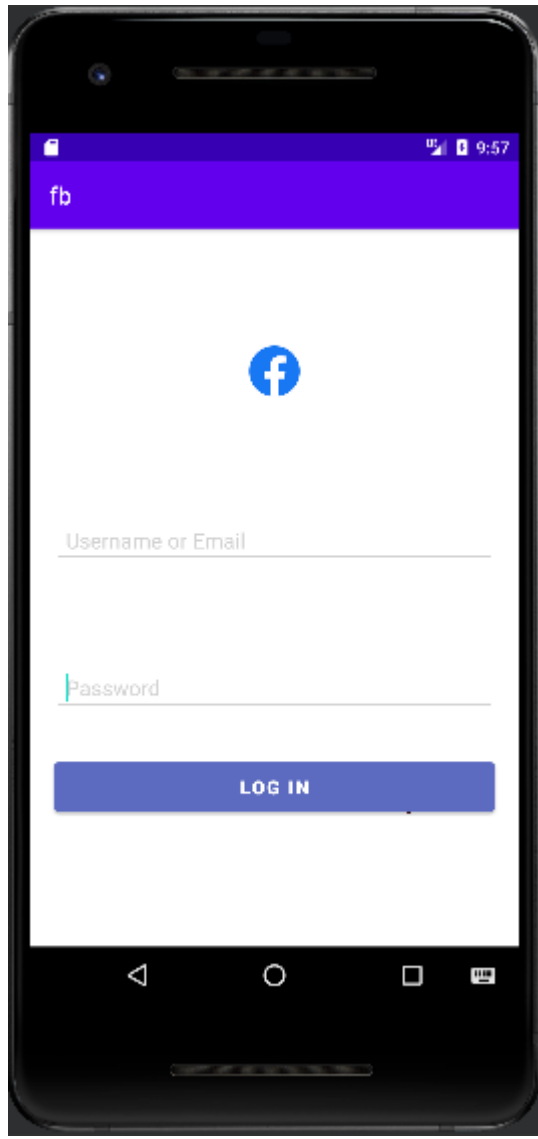
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="20dp"
        android:layout_marginTop="80dp"
        android:layout_marginRight="20dp"
        android:backgroundTint="#d3d3d3"
        android:hint="Password"
        android:inputType="textPassword"
        android:maxLines="1"
        android:padding="10dp"
```

```

        android:textColor="#ffffff"
        android:textColorHint="#d3d3d3"/>
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/btnlogin"
    android:layout_marginLeft="20dp"
    android:layout_marginTop="35dp"
    android:layout_marginRight="20dp"
    android:backgroundTint="#5c6bc0"
    android:padding="10dp"
    android:text="Log In"
    android:textColor="#ffffff"
    android:textSize="16sp"
    android:textStyle="bold"/>
<RelativeLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:orientation="vertical">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/txtSignUp"
            android:gravity="center_horizontal"
            android:text="Sign up for facebook"
            android:textColor="#ffffff"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/txtForgotPassword"
            android:layout_gravity="center_horizontal"
            android:layout_marginTop="15dp"
            android:layout_marginBottom="15dp"
            android:text="Forgot Password"
            android:textColor="#ffffff"/>
    </LinearLayout>
</RelativeLayout>

```

OUTPUT



Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

CO3
PROGRAMS

PROGRAM 10

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM:

Develop an android application to implement Options Menu

GUI DESIGN

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/popupmenu"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="btnPopup"
    android:hint="Select Item"
    android:editable="false"
    android:gravity="center"
    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.menu;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.view.View;
import android.widget.EditText;
import android.widget.PopupMenu;
import android.widget.Toast;

import java.util.zip.Inflater;

public class MainActivity extends AppCompatActivity {

    Menu myMenu;
    EditText selectItem;

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

    //This function is to create option menu
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater inflater = getMenuInflater();
        inflater.inflate(R.menu.main_menu, menu);

        selectItem = (EditText)findViewById(R.id.popupmenu);

        return true;
    }

    //This function is for making the option menu clickable
    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        if (item.getItemId() == R.id.item1)
        {
```



```

        Toast.makeText(this, "Home Selected", Toast.LENGTH_SHORT).show();
    }
    if (item.getItemId() == R.id.item2)
    {
        Toast.makeText(this, "About Selected", Toast.LENGTH_SHORT).show();
    }
    if (item.getItemId() == R.id.item3)
    {
        Toast.makeText(this, "Contact Selected", Toast.LENGTH_SHORT).show();
    }

    return true;
}

//This is for option menu, this function will trigger once the gadget against this
//function is clicked.
public void btnPopup(View view) {
    PopupMenu popup = new PopupMenu(this, view);
    popup.getMenuInflater().inflate(R.menu.main_menu, popup.getMenu());
    popup.show();

    //This function is to make the popup menu clickable
    popup.setOnMenuItemClickListener(new PopupMenu.OnMenuItemClickListener() {
        @Override
        public boolean onMenuItemClick(MenuItem menuItem) {
            if (menuItem.getItemId() == R.id.item1)
            {
                selectItem.setText("Home");
                Toast.makeText(MainActivity.this, "Home Selected",
Toast.LENGTH_SHORT).show();
            }
            if (menuItem.getItemId() == R.id.item2)
            {
                selectItem.setText("About");
                Toast.makeText(MainActivity.this, "About Selected",
Toast.LENGTH_SHORT).show();
            }
            if (menuItem.getItemId() == R.id.item3)
            {
                selectItem.setText("Contact");
                Toast.makeText(MainActivity.this, "Contact Selected",
Toast.LENGTH_SHORT).show();
            }
        }
    });
}

```

```

        return true;
    }
});
}
}

```

Colors.xml

```

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

<resources>
    <color name="colorPrimary">#6200EE</color>
    <color name="colorPrimaryDark">#3700B3</color>
    <color name="colorAccent">#03DAC5</color>
</resources>

```

String.xml

```

<resources>
    <string name="app_name">Menu</string>
</resources>

```

Style.xml

```

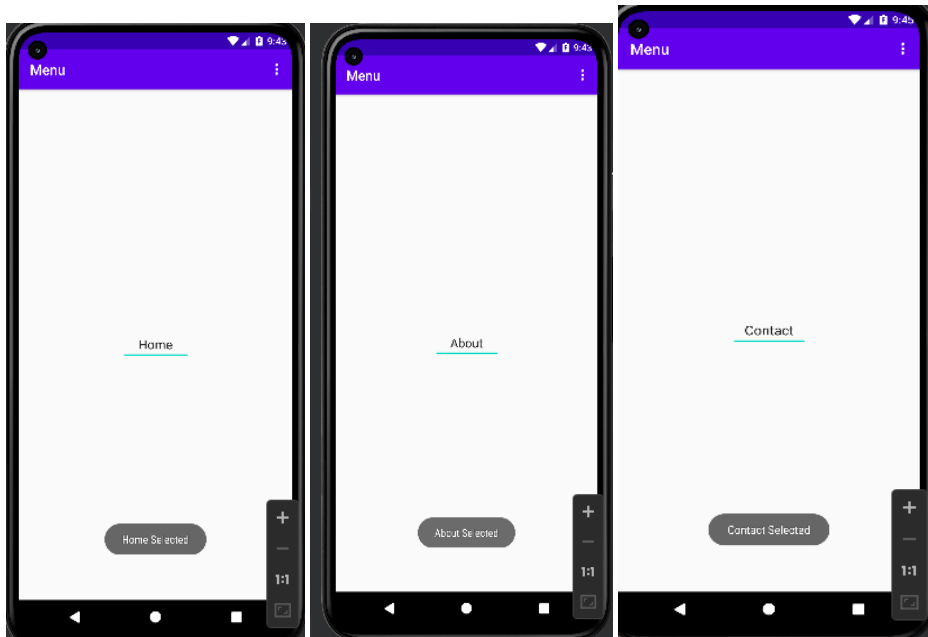
<resources>

    <!-- Base application theme. -->

    <style name="AppTheme" parent="Theme.AppCompat.Light.DarkActionBar">        <!--
    Customize your theme here. -->
        <item name="colorPrimary">@color/colorPrimary</item>
        <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
        <item name="colorAccent">@color/colorAccent</item>
    </style>
</resources>

```

OUTPUT



Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

CO4
PROGRAMS

PROGRAM 11

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM:

Android program to demonstrate the working of Alert Box.

GUI DESIGN

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:android="http://schemas.android.com/apk/res/android" >

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Show Alert"
        android:id="@+id/getBtn"
        android:layout_marginLeft="150dp"
        android:layout_marginTop="200dp" />

</RelativeLayout>
```

MainActivity.java

```
package com.example.alertbox;

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

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity
{

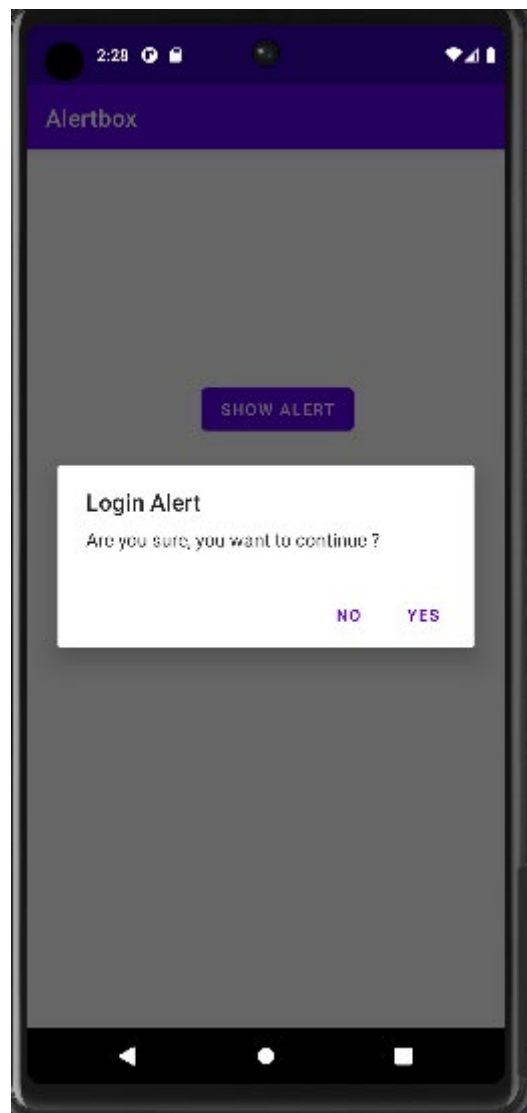
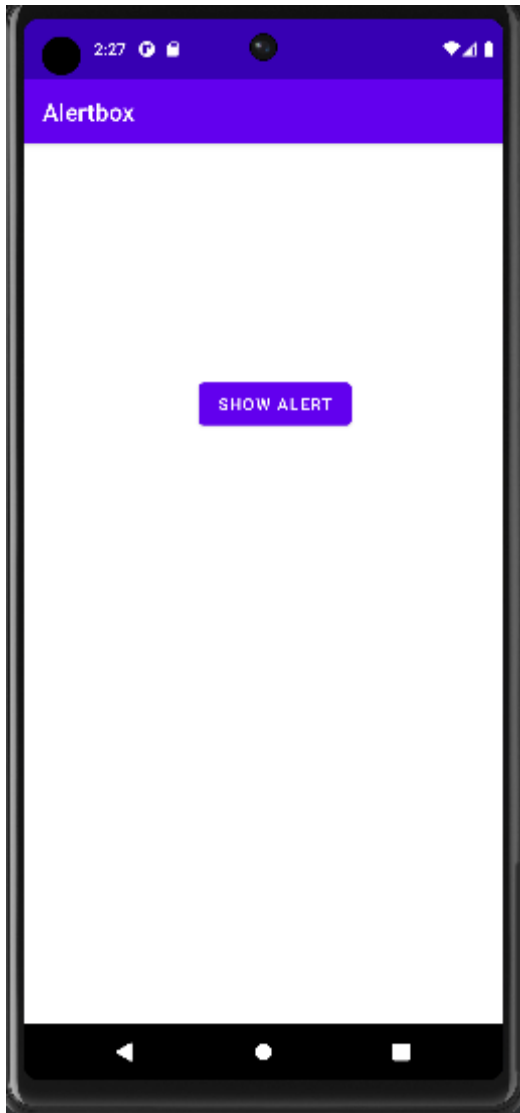
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
```

```

setContentView(R.layout.activity_main);
Button btn=(Button) findViewById(R.id.getBtn);
btn.setOnClickListener(new View.OnClickListener()
{
    @Override
    public void onClick(View v)
    {
        AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
        builder.setTitle("Login Alert").setMessage("Are you sure, you want to continue ?")
            .setCancelable(false)
            .setPositiveButton("Yes", new DialogInterface.OnClickListener()
            {
                @Override
                public void onClick(DialogInterface dialog, int which)
                {
                    Toast.makeText(MainActivity.this,"Selected Option:
YES",Toast.LENGTH_SHORT).show();
                }
            })
            .setNegativeButton("No",new DialogInterface.OnClickListener()
            {
                @Override
                public void onClick(DialogInterface dialog, int which)
                {
                    Toast.makeText(MainActivity.this,"Selected Option:
No",Toast.LENGTH_SHORT).show();
                }
            });
        AlertDialog dialog=builder.create();
        dialog.show();
    }
});
}

```

OUTPUT



Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

PROGRAM 12

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM

Android program to implement Spinner

GUI DESIGN

activity_main.xml

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

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent" android:layout_height="match_parent">

    <TextView
        android:id="@+id/txtVw"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="50dp"
        android:layout_marginTop="150dp"
        android:text="Select User:"
        android:textStyle="bold"
        android:textSize="15dp" />

    <Spinner
        android:id="@+id/spinner1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/txtVw"
        android:layout_toRightOf="@+id/txtVw" />
```


MainActivity.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.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemClickListener {

    String[] users = { "Prasanth AV", "Sandra Suresh", "Nithin Andrews", "Akhila Aravind",
        "Gayathri" };

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

        Spinner spin = (Spinner) findViewById(R.id.spinner1);

        ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,
            android.R.layout.simple_spinner_item, users);

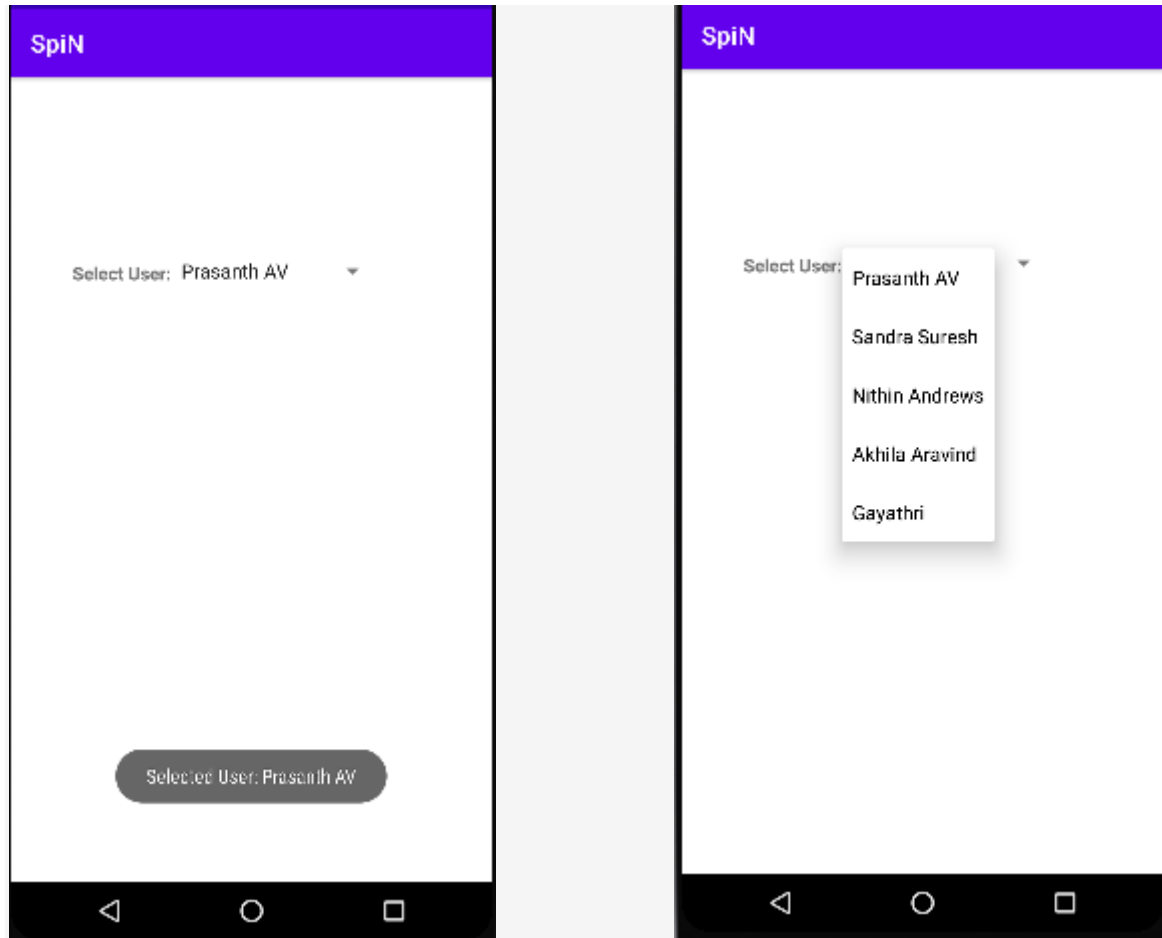
        adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        spin.setAdapter(adapter);
        spin.setOnItemSelectedListener(this);
    }

    @Override
    public void onItemClick(AdapterView<?> arg0, View arg1, int position, long id) {
```

```
        Toast.makeText(getApplicationContext(), "Selected User: "+users[position]
,Toast.LENGTH_LONG).show();
    }

    @Override
    public void onNothingSelected(AdapterView<?> arg0) {
        // TODO - Custom Code
    }
```

Output



Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

PROGRAM 13

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM

Android program to apply themes via code and manifest file

GUI DESIGN

Themes.xml

```
<resources xmlns:tools="http://schemas.android.com/tools">
    <!-- Base application theme. -->
    <style name="Theme.Theme"
parent="Theme.MaterialComponents.DayNight.DarkActionBar">
        <!-- Primary brand color. -->
        <item name="colorPrimary">@color/design_default_color_primary</item>
        <item
name="colorPrimaryVariant">@color/design_default_color_primary_dark</item>
        <item name="colorOnPrimary">@color/white</item>
    </style>
    <!-- Secondary brand color. -->
    <style name="TextviewStyle" parent="@android:style/Widget.TextView">
        <item name="android:layout_width">wrap_content</item>
        <item name="android:layout_height">wrap_content</item>
        <item name="android:layout_marginLeft">100dp</item>
        <item name="android:layout_marginTop">10dp</item>
        <item name="android:textColor">#86AD33</item>
        <item name="android:textStyle">bold</item>
        <item name="android:textSize">20dp</item>
    </style>
    <style name="ButtonStyle" parent="@android:style/Widget.Button">
        <item name="android:layout_width">200dp</item>
        <item name="android:layout_height">wrap_content</item>
        <item name="android:layout_marginLeft">100dp</item>
        <item name="android:layout_marginTop">10dp</item>
        <item name="android:textColor">#FFFFFF</item>
        <item name="android:background">#F1511B</item>
        <item name="android:textStyle">bold</item>
        <item name="android:textSize">15dp</item>

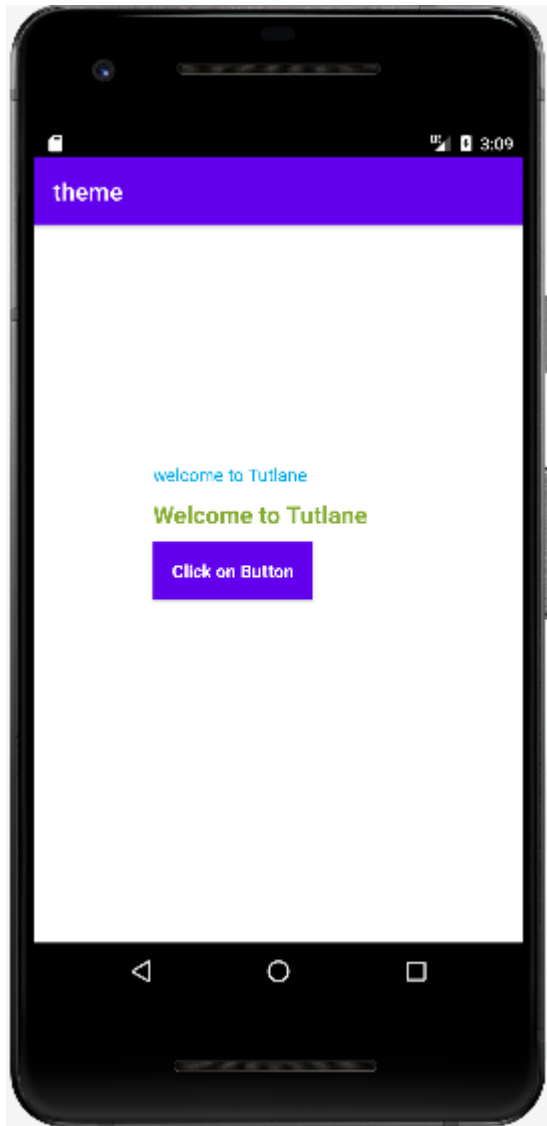
    </style>
    <string name="wlcmmsg">welcome to Tutlane</string>
</resources>
```

activity main.xml

```
<LinearLayout android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    xmlns:android="http://schemas.android.com/apk/res/android" >
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/TextView1"
        android:layout_marginLeft="100dp"
        android:layout_marginTop="200dp"
        android:textColor="#00ADEF"
        android:textSize="15dp"
        android:text="@string/wlcmsg">
    </TextView>
    <TextView
        android:id="@+id/TextView2"
        style="@style/TextviewStyle"
        android:text="Welcome to Tutlane"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/btnShow"
        android:text="Click on Button"
        style="@style/ButtonStyle"/>

</LinearLayout>
```

Output:



Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

PROGRAM 14

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM:

Create an android application performs CRUD operations in android SQLite

File.xml

```
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="50dp"
        android:layout_y="20dp"
        android:text="Student Details"
        android:textSize="30sp" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="20dp"
        android:layout_y="110dp"
        android:text="Enter Rollno:"
        android:textSize="20sp" />

    <EditText
        android:id="@+id/Rollno"
        android:layout_width="150dp"
        android:layout_height="wrap_content"
        android:layout_x="175dp"
        android:layout_y="100dp"
        android:inputType="number"
        android:textSize="20sp" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="20dp"
        android:layout_y="160dp"
        android:text="Enter Name:"
        android:textSize="20sp" />
```

```
<EditText
    android:id="@+id/Name"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="175dp"
    android:layout_y="150dp"
    android:inputType="text"
    android:textSize="20sp" />
```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_x="20dp"
    android:layout_y="210dp"
    android:text="Enter Marks:"
    android:textSize="20sp" />
```

```
<EditText
    android:id="@+id/Marks"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="175dp"
    android:layout_y="200dp"
    android:inputType="number"
    android:textSize="20sp" />
```

```
<Button
    android:id="@+id/Insert"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="25dp"
    android:layout_y="300dp"
    android:text="Insert"
    android:textSize="30dp" />
```

```
<Button
    android:id="@+id/Delete"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="200dp"
    android:layout_y="300dp"
    android:text="Delete"
    android:textSize="30dp" />
```

```
<Button
    android:id="@+id/Update"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="25dp"
```



```
    android:layout_y="400dp"
    android:text="Update"
    android:textSize="30dp" />
```

```
<Button
    android:id="@+id/View"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="200dp"
    android:layout_y="400dp"
    android:text="View"
    android:textSize="30dp" />
```

```
<Button
    android:id="@+id/ViewAll"
    android:layout_width="200dp"
    android:layout_height="wrap_content"
    android:layout_x="100dp"
    android:layout_y="500dp"
    android:text="View All"
    android:textSize="30dp" />
```

```
</AbsoluteLayout>
```

File:java

```
package com.androapp.data;
```

```
import android.app.Activity;
import android.app.AlertDialog.Builder;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
```

```
public class MainActivity extends Activity implements OnClickListener
{
    EditText Rollno,Name,Marks;
    Button Insert,Delete,Update,View,ViewAll;
    SQLiteDatabase db;
```

```
@Override
public void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
```

```

setContentView(R.layout.activity_main);

Rollno=(EditText)findViewById(R.id.Rollno);
Name=(EditText)findViewById(R.id.Name);
Marks=(EditText)findViewById(R.id.Marks);
Insert=(Button)findViewById(R.id.Insert);
Delete=(Button)findViewById(R.id.Delete);
Update=(Button)findViewById(R.id.Update);
View=(Button)findViewById(R.id.View);
ViewAll=(Button)findViewById(R.id.ViewAll);

Insert.setOnClickListener(this);
Delete.setOnClickListener(this);
Update.setOnClickListener(this);
View.setOnClickListener(this);
ViewAll.setOnClickListener(this);

db=openOrCreateDatabase("StudentDB", Context.MODE_PRIVATE, null);
db.execSQL("CREATE TABLE IF NOT EXISTS student(rollno VARCHAR,name
VARCHAR,marks VARCHAR);");
}
public void onClick(View view)
{
    if(view==Insert)
    {
        if(Rollno.getText().toString().trim().length()==0||
            Name.getText().toString().trim().length()==0||
            Marks.getText().toString().trim().length()==0)
        {
            showMessage("Error", "Please enter all values");
            return;
        }
        db.execSQL("INSERT INTO student
VALUES('"+Rollno.getText()+"','"+Name.getText()+"',
        '"+Marks.getText()+"');");
        showMessage("Success", "Record added");
        clearText();
    }

    if(view==Delete)
    {
        if(Rollno.getText().toString().trim().length()==0)
        {
            showMessage("Error", "Please enter Rollno");
            return;
        }
    }
}

```

```

        Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);
        if(c.moveToFirst())
        {
            db.execSQL("DELETE FROM student WHERE rollno='"+Rollno.getText()+"'");
            showMessage("Success", "Record Deleted");
        }
        else
        {
            showMessage("Error", "Invalid Rollno");
        }
        clearText();
    }

    if(view==Update)
    {

        if(Rollno.getText().toString().trim().length()==0)
        {
            showMessage("Error", "Please enter Rollno");
            return;
        }
        Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);
        if(c.moveToFirst()) {
            db.execSQL("UPDATE student SET name='"+ Name.getText() + "',marks='"+
Marks.getText() +
            "' WHERE rollno='"+Rollno.getText()+"'");
            showMessage("Success", "Record Modified");
        }
        else {
            showMessage("Error", "Invalid Rollno");
        }
        clearText();
    }

    if(view==View)
    {

        if(Rollno.getText().toString().trim().length()==0)
        {
            showMessage("Error", "Please enter Rollno");
            return;
        }
        Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);
        if(c.moveToFirst())
        {
            Name.setText(c.getString(1));
            Marks.setText(c.getString(2));
        }
    }

```

```

    }
    else
    {
        showMessage("Error", "Invalid Rollno");
        clearText();
    }
}

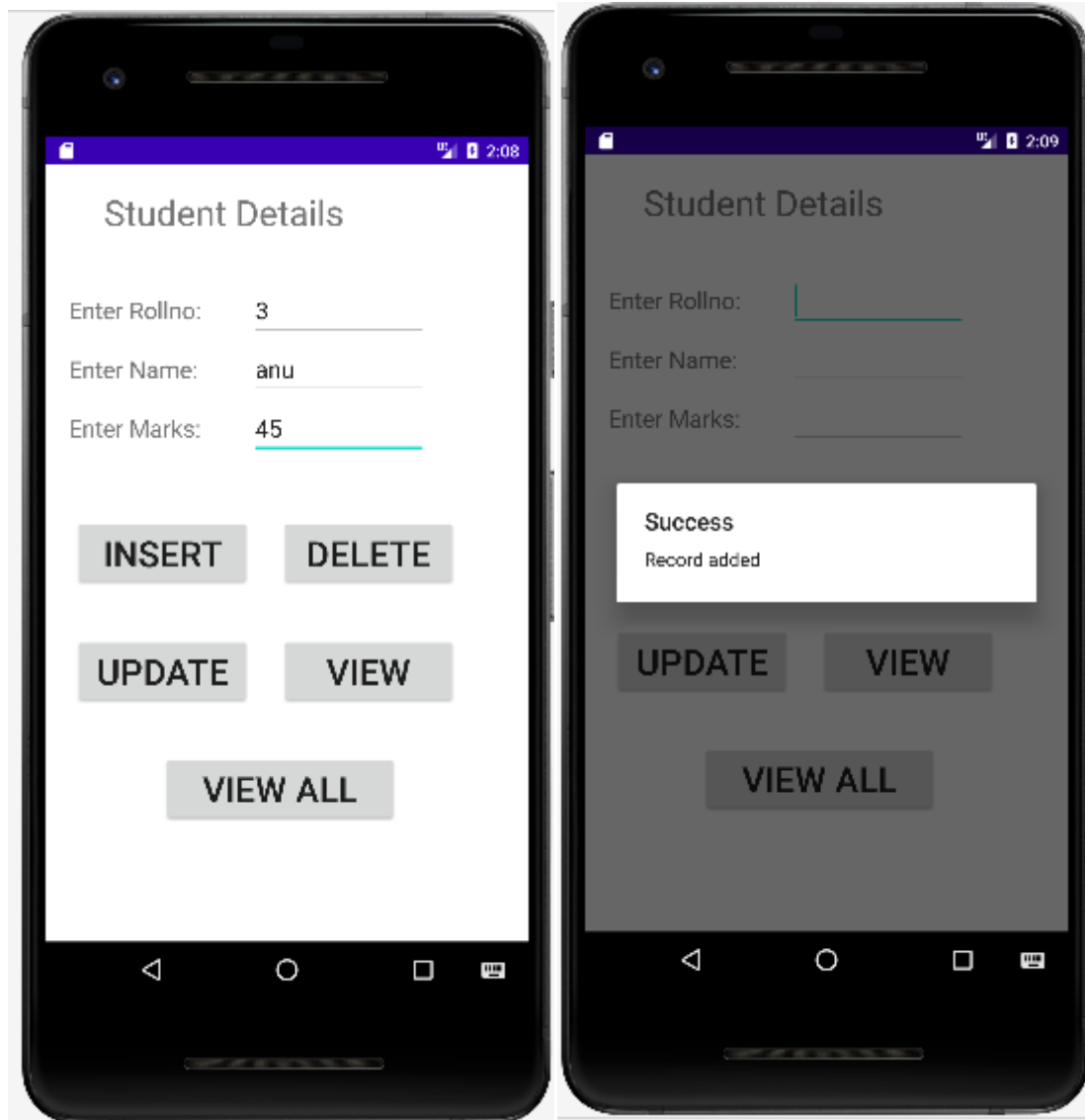
if(view==ViewAll)
{
    Cursor c=db.rawQuery("SELECT * FROM student", null);
    if(c.getCount()==0)
    {
        showMessage("Error", "No records found");
        return;
    }
    StringBuffer buffer=new StringBuffer();
    while(c.moveToNext())
    {
        buffer.append("Rollno: "+c.getString(0)+"\n");
        buffer.append("Name: "+c.getString(1)+"\n");
        buffer.append("Marks: "+c.getString(2)+"\n\n");
    }
    showMessage("Student Details", buffer.toString());
}
}

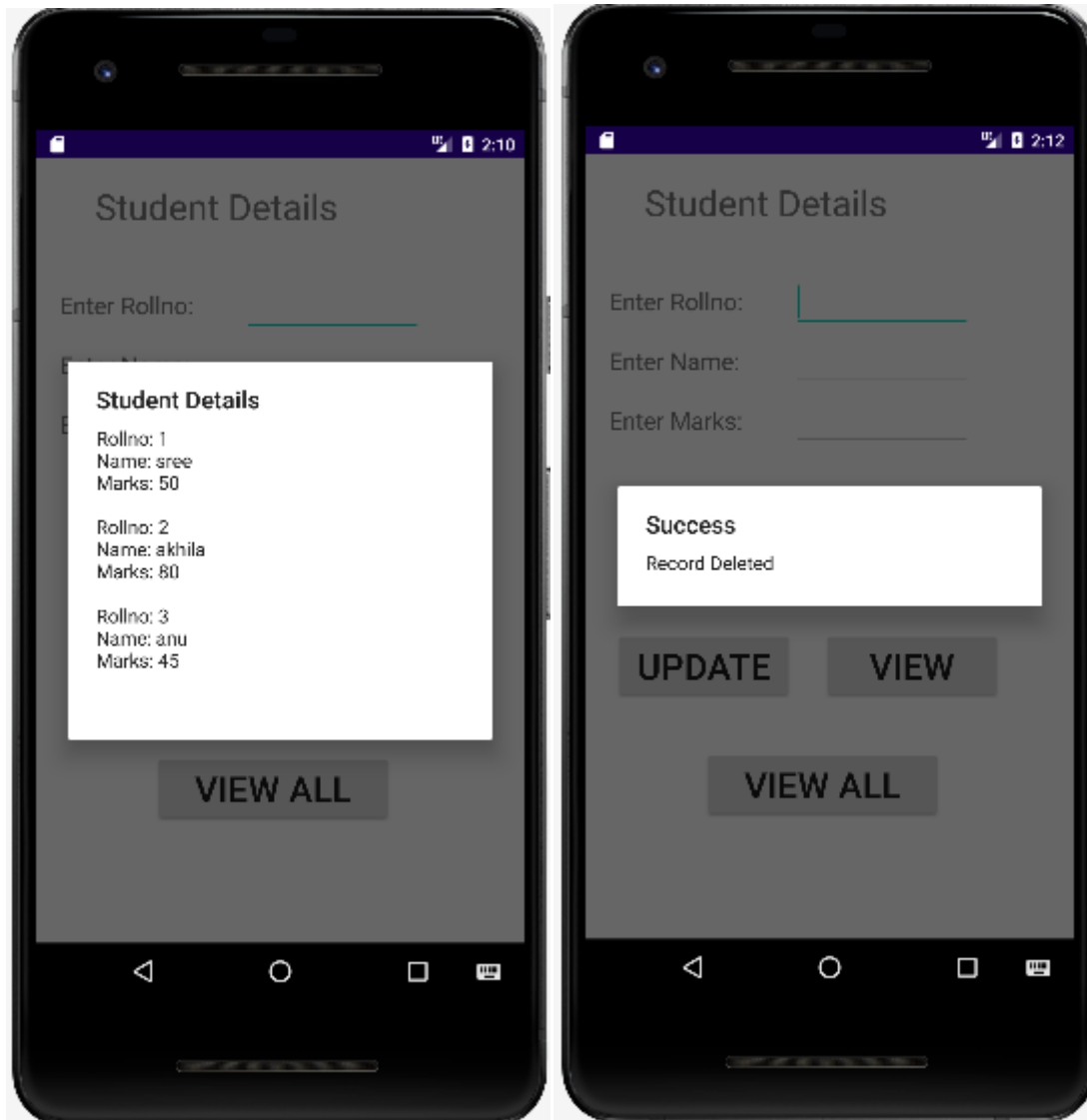
public void showMessage(String title,String message)
{
    Builder builder=new Builder(this);
    builder.setCancelable(true);
    builder.setTitle(title);
    builder.setMessage(message);
    builder.show();
}

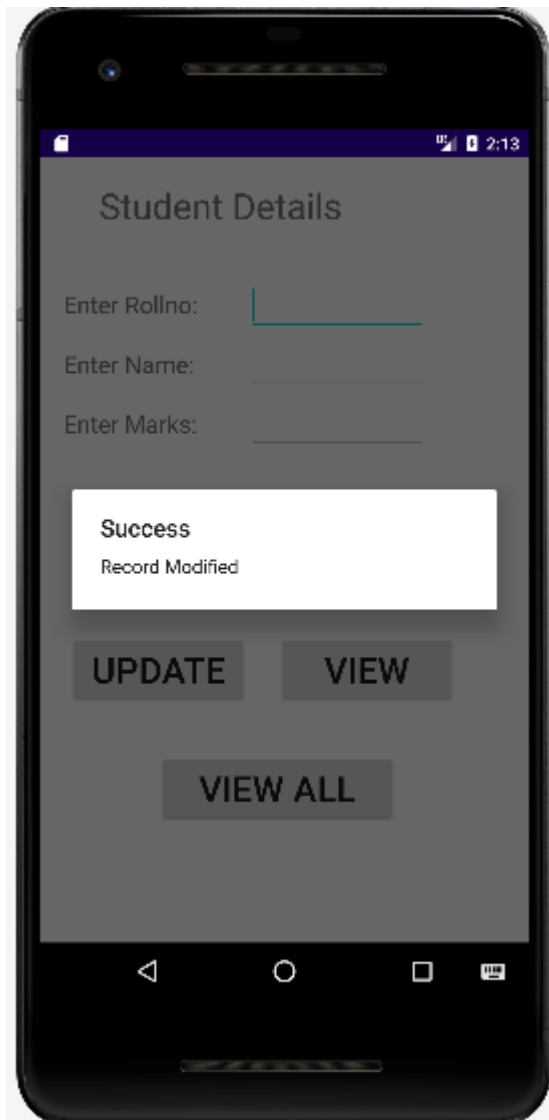
public void clearText()
{
    Rollno.setText("");
    Name.setText("");
    Marks.setText("");
    Rollno.requestFocus();
}
}

```

Output







Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor:

CO5
PROGRAMS

PROGRAM 15

Name: ARJUN M ANIL	Roll No: 1	Name of Lab: Mobile Application Development Lab	Period:
Class: S3, MCA	Date:	Nature of Lab Work: Practical	Batch: 2022-2024

AIM

Develop an application as a Micro project which uses SQLite database as an assignment

GUI DESIGN

Entry.xml

```
<?xml version="1.0" encoding="utf-8"?>
<AbsoluteLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@drawable/img2">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="50dp"
        android:layout_y="20dp"
        android:text="Student Details"
        android:textSize="30sp" />

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

```
android:layout_x="20dp"
android:layout_y="110dp"
android:text="Enter Rollno:"
android:textSize="20sp" />
```

<EditText

```
android:id="@+id/Rollno"
android:layout_width="150dp"
android:layout_height="wrap_content"
android:layout_x="175dp"
android:layout_y="100dp"
android:inputType="number"
android:textSize="20sp" />
```

<TextView

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_x="20dp"
android:layout_y="160dp"
android:text="Enter Name:"
android:textSize="20sp" />
```

<EditText

```
android:id="@+id/Name"
android:layout_width="150dp"
android:layout_height="wrap_content"
android:layout_x="175dp"
android:layout_y="150dp"
android:inputType="text"
android:textSize="20sp" />
```

<TextView

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_x="20dp"
    android:layout_y="210dp"
    android:text="Enter Marks:"
    android:textSize="20sp" />
```

<EditText

```
    android:id="@+id/Marks"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="175dp"
    android:layout_y="200dp"
    android:inputType="number"
    android:textSize="20sp" />
```

<Button

```
    android:id="@+id/Insert"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_x="25dp"
    android:layout_y="300dp"
    android:text="Insert"
    android:textSize="30dp" />
```

<Button

```
    android:id="@+id/Delete"
    android:layout_width="150dp"
```

```
android:layout_height="wrap_content"
android:layout_x="200dp"
android:layout_y="300dp"
android:text="Delete"
android:textSize="30dp" />
```

<Button

```
android:id="@+id/Update"
android:layout_width="150dp"
android:layout_height="wrap_content"
android:layout_x="25dp"
android:layout_y="400dp"
android:text="Update"
android:textSize="30dp" />
```

<Button

```
android:id="@+id/View"
android:layout_width="150dp"
android:layout_height="wrap_content"
android:layout_x="200dp"
android:layout_y="400dp"
android:text="View"
android:textSize="30dp" />
```

<Button

```
android:id="@+id/ViewAll"
android:layout_width="200dp"
android:layout_height="wrap_content"
android:layout_x="100dp"
android:layout_y="500dp"
```

```
android:text="View All"
android:textSize="30dp" />
```

```
</AbsoluteLayout>
```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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:background="@drawable/img1"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="346dp"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="53dp"
        android:layout_marginEnd="11dp"
        android:layout_marginBottom="445dp"
        android:text="Student Details"
        android:textColor="#4A4444"
```

```
        android:textSize="40sp"
        android:textStyle="bold" />
</RelativeLayout>
```

Ic_launcher_background.xml

```
<?xml version="1.0" encoding="utf-8"?>
<vector xmlns:android="http://schemas.android.com/apk/res/android"
    android:width="108dp"
    android:height="108dp"
    android:viewportWidth="108"
    android:viewportHeight="108">
    <path
        android:fillColor="#3DDC84"
        android:pathData="M0,0h108v108h-108z" />
    <path
        android:fillColor="#00000000"
        android:pathData="M9,0L9,108"
        android:strokeWidth="0.8"
        android:strokeColor="#33FFFFFF" />
    <path
        android:fillColor="#00000000"
        android:pathData="M19,0L19,108"
        android:strokeWidth="0.8"
        android:strokeColor="#33FFFFFF" />
    <path
        android:fillColor="#00000000"
        android:pathData="M29,0L29,108"
        android:strokeWidth="0.8"
        android:strokeColor="#33FFFFFF" />
```

```

<path
    android:fillColor="#00000000"
    android:pathData="M39,0L39,108"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M49,0L49,108"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M59,0L59,108"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M69,0L69,108"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M79,0L79,108"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M89,0L89,108"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />

```

```

<path
    android:fillColor="#00000000"
    android:pathData="M99,0L99,108"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M0,9L108,9"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M0,19L108,19"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M0,29L108,29"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M0,39L108,39"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M0,49L108,49"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />

```



```

<path
    android:fillColor="#00000000"
    android:pathData="M0,59L108,59"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M0,69L108,69"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M0,79L108,79"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M0,89L108,89"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M0,99L108,99"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M19,29L89,29"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />

```

```

<path
    android:fillColor="#00000000"
    android:pathData="M19,39L89,39"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M19,49L89,49"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M19,59L89,59"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M19,69L89,69"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M19,79L89,79"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M29,19L29,89"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />

```

```

<path
    android:fillColor="#00000000"
    android:pathData="M39,19L39,89"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M49,19L49,89"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M59,19L59,89"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M69,19L69,89"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
<path
    android:fillColor="#00000000"
    android:pathData="M79,19L79,89"
    android:strokeWidth="0.8"
    android:strokeColor="#33FFFFFF" />
</vector>

```

Entry.java

```

package com.pandanadroversapplications.student;
import android.app.Activity;

```

```

import android.app.AlertDialog.Builder;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;

public class Entry extends Activity implements OnClickListener
{
    EditText Rollno,Name,Marks;
    Button Insert,Delete,Update,View,ViewAll;
    SQLiteDatabase db;

    /** Called when the activity is first created. */
    @Override
    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_entry);

        Rollno=(EditText)findViewById(R.id.Rollno);
        Name=(EditText)findViewById(R.id.Name);
        Marks=(EditText)findViewById(R.id.Marks);
        Insert=(Button)findViewById(R.id.Insert);
        Delete=(Button)findViewById(R.id.Delete);
        Update=(Button)findViewById(R.id.Update);
        View=(Button)findViewById(R.id.View);
    }
}

```

```

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

Insert.setOnClickListener(this);
Delete.setOnClickListener(this);
Update.setOnClickListener(this);
View.setOnClickListener(this);
ViewAll.setOnClickListener(this);

// Creating database and table
db=openOrCreateDatabase("StudentDB", Context.MODE_PRIVATE, null);
db.execSQL("CREATE TABLE IF NOT EXISTS student(rollno VARCHAR,name
VARCHAR,marks VARCHAR);");
}
public void onClick(View view)
{
// Inserting a record to the Student table
if(view==Insert)
{
// Checking for empty fields
if(Rollno.getText().toString().trim().length()==0||
    Name.getText().toString().trim().length()==0||
    Marks.getText().toString().trim().length()==0)
{
    showMessage("Error", "Please enter all values");
    return;
}

db.execSQL("INSERT INTO student
VALUES('"+Rollno.getText()+"','"+Name.getText()+"
','"+Marks.getText()+"');");

showMessage("Success", "Record added");
clearText();

```

```

    }
    // Deleting a record from the Student table
    if(view==Delete)
    {
        // Checking for empty roll number
        if(Rollno.getText().toString().trim().length()==0)
        {
            showMessage("Error", "Please enter Rollno");
            return;
        }
        Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);
        if(c.moveToFirst())
        {
            db.execSQL("DELETE FROM student WHERE rollno='"+Rollno.getText()+"'");
            showMessage("Success", "Record Deleted");
        }
        else
        {
            showMessage("Error", "Invalid Rollno");
        }
        clearText();
    }
    // Updating a record in the Student table
    if(view==Update)
    {
        // Checking for empty roll number
        if(Rollno.getText().toString().trim().length()==0)
        {
            showMessage("Error", "Please enter Rollno");
            return;
        }
    }

```

```

    }

    Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);

    if(c.moveToFirst()) {

        db.execSQL("UPDATE student SET name='"+ Name.getText() + "',marks='"+
Marks.getText() +

        "' WHERE rollno='"+Rollno.getText()+"'");

        showMessage("Success", "Record Modified");
    }

    else {

        showMessage("Error", "Invalid Rollno");

    }

    clearText();
}

// Display a record from the Student table
if(view==View)
{
    // Checking for empty roll number
    if(Rollno.getText().toString().trim().length()==0)
    {
        showMessage("Error", "Please enter Rollno");

        return;
    }

    Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);

    if(c.moveToFirst())
    {
        Name.setText(c.getString(1));

        Marks.setText(c.getString(2));
    }

    else

```

```

        {
            showMessage("Error", "Invalid Rollno");
            clearText();
        }
    }

    // Displaying all the records
    if(view==ViewAll)
    {
        Cursor c=db.rawQuery("SELECT * FROM student", null);
        if(c.getCount()==0)
        {
            showMessage("Error", "No records found");
            return;
        }

        StringBuffer buffer=new StringBuffer();
        while(c.moveToNext())
        {
            buffer.append("Rollno: "+c.getString(0)+"\n");
            buffer.append("Name: "+c.getString(1)+"\n");
            buffer.append("Marks: "+c.getString(2)+"\n\n");
        }

        showMessage("Student Details", buffer.toString());
    }
}

public void showMessage(String title,String message)
{
    Builder builder=new Builder(this);
    builder.setCancelable(true);
    builder.setTitle(title);
    builder.setMessage(message);
}

```



```

        builder.show();
    }
    public void clearText()
    {
        Rollno.setText("");
        Name.setText("");
        Marks.setText("");
        Rollno.requestFocus();
    }
}

```

Main Activity.java

```

package com.pandanadroversapplications.student;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.os.Handler;
import java.util.Objects;
public class MainActivity extends AppCompatActivity {

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

        Objects.requireNonNull(getSupportActionBar()).hide();
        new Handler().postDelayed(() -> {
            startActivity(new Intent(MainActivity.this,Entry.class));
            finish();

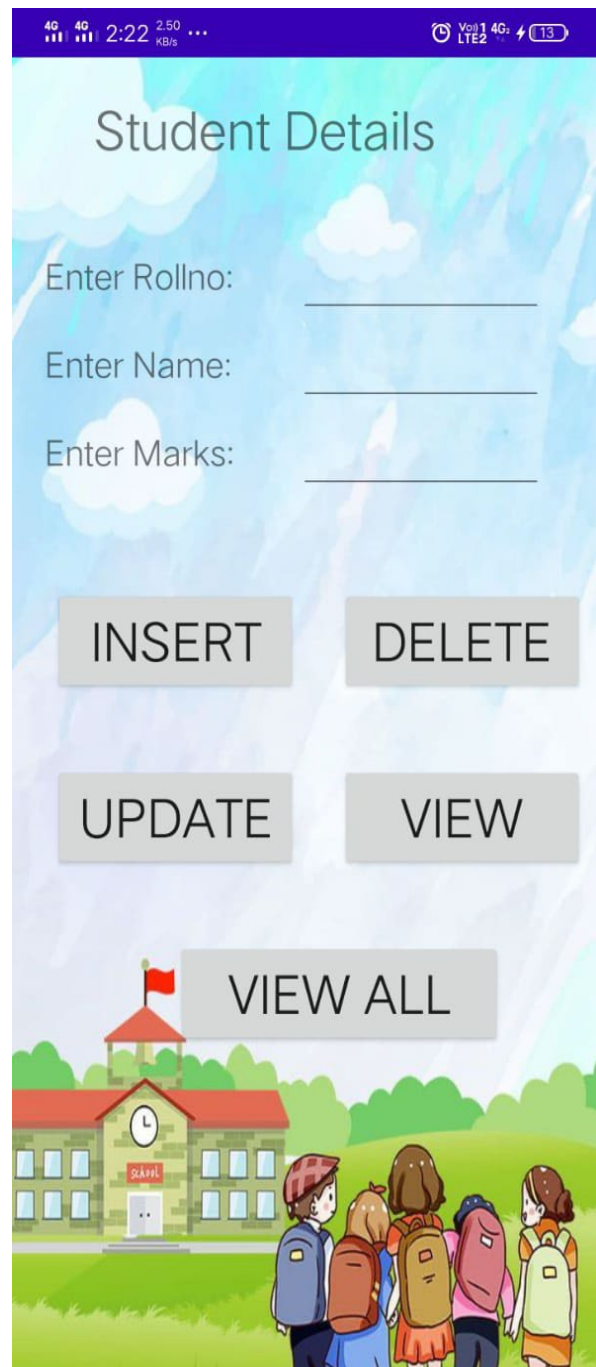
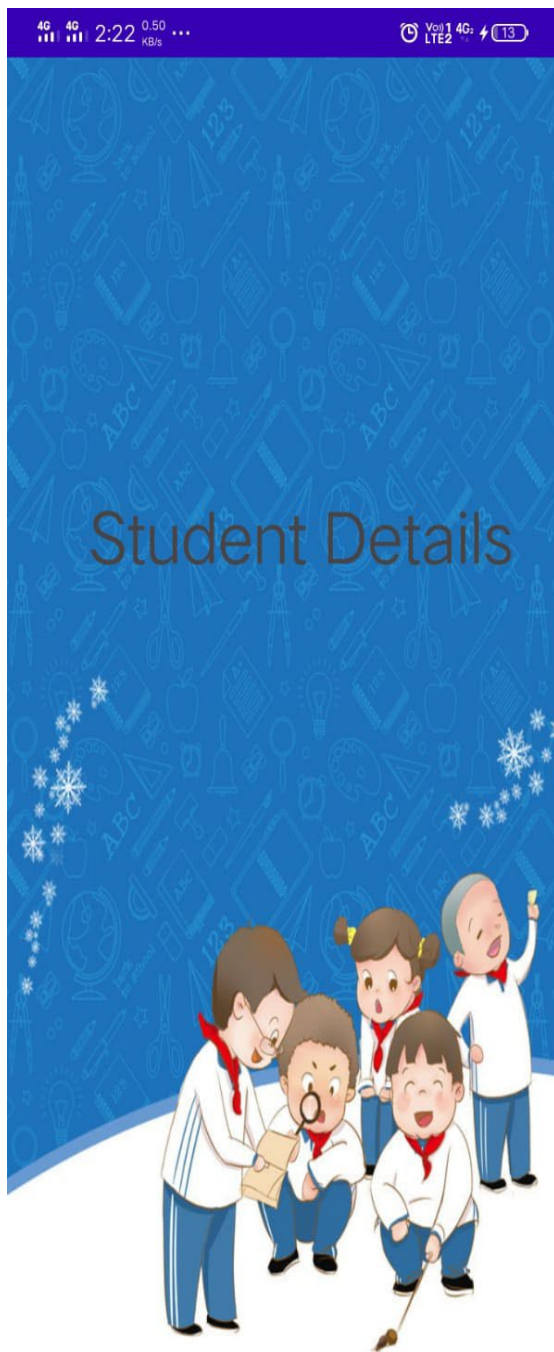
```

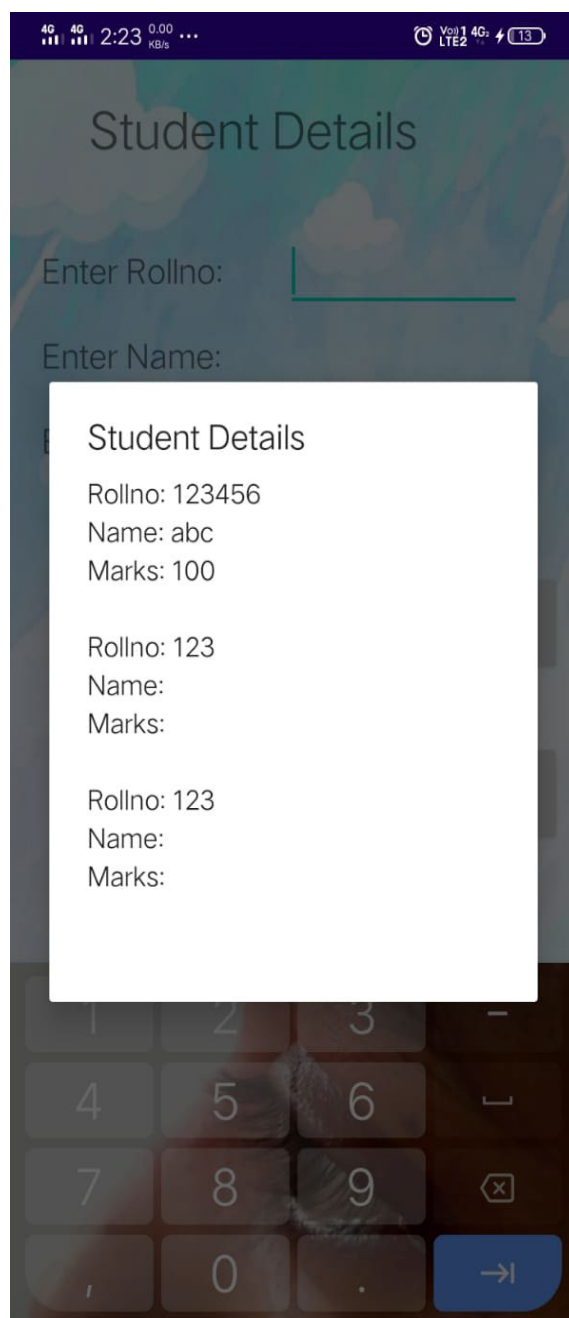
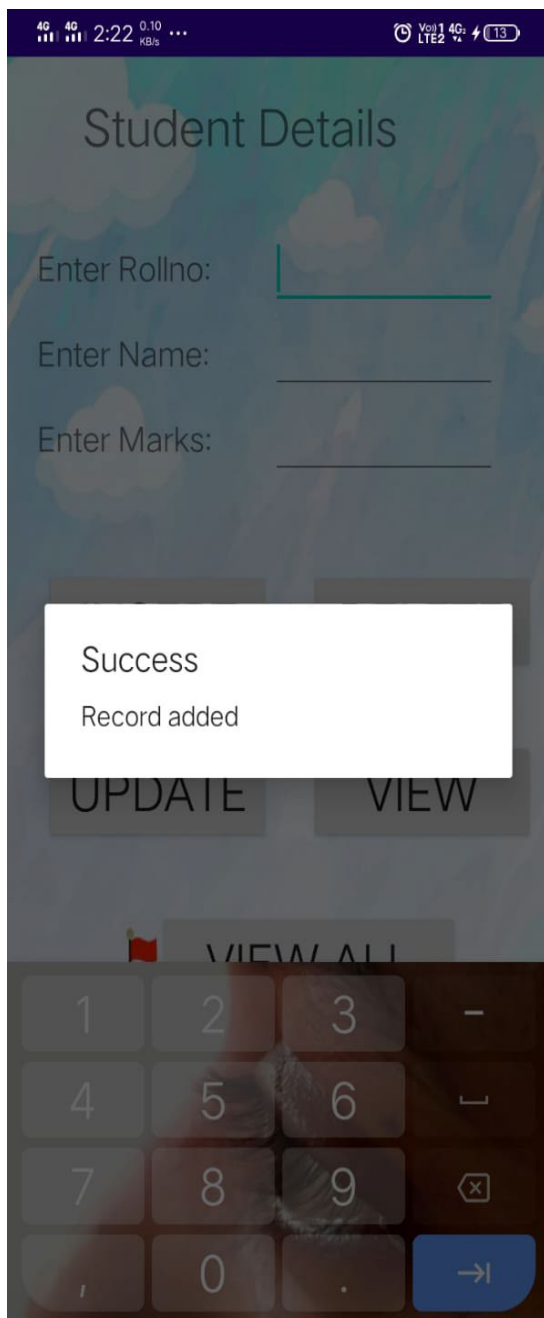
```
}, 2000);
```

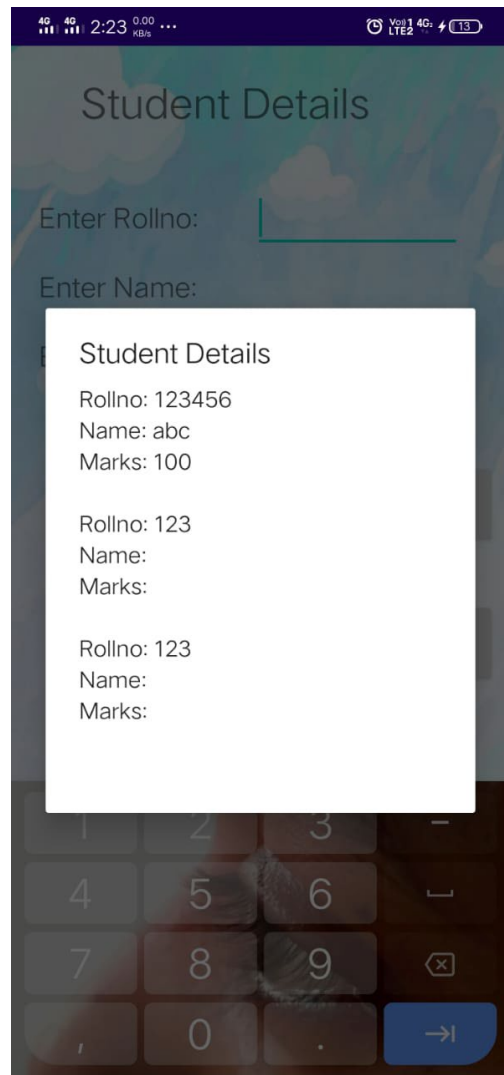
```
}
```

```
}
```

Output







Result/Observation

Successfully completed the android program and output is obtained.

Viva(5)	Performance(5)	Total(10)

Assessor: