LABCYCLE:1

EXPERIMENT NO:1   DATE:

AIM: Write a program to print HelloWorld

MainActivity.java file

```java
package com.example.app2;
import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
@Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

}
```
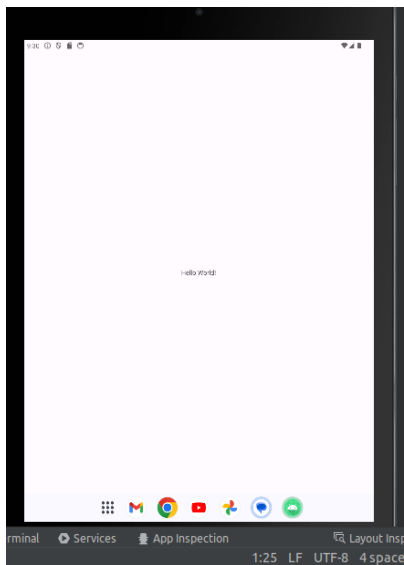
activity_main.xml

```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="Hello World!"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintLeft_toLeftOf="parent"

        app:layout_constraintRight_toRightOf="parent"
```

app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.

  widget.ConstraintLayout>

OUTPUT:

RESULT: The program was successfully implemented and output is obtained

EXPERIMENT NO:2   DATE:

AIM: Design a Login Form with username and password using LinearLayout and toast valid credentials

Main Activity.java

```java
package com.example.app2; // Replace with your actual package nameimport

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 editTextUsername;

    private EditText editTextPassword;

    private Button buttonLogin;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        editTextUsername = findViewById(R.id.editTextUsername);

        editTextPassword = findViewById(R.id.editTextPassword);

        buttonLogin = findViewById(R.id.buttonLogin);

        buttonLogin.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                String username = editTextUsername.getText().toString();

                String password = editTextPassword.getText().toString();

                if (isValidCredentials(username, password)) {

                    showToast("Login successful");

                } else {

                    showToast("Invalid credentials");

                }
```

```java
            }

        });

    }

    private boolean isValidCredentials(String username, String password) {

        return username.equals("admin") && password.equals("admin");

    }

    private void showToast(String message) {

        Toast.makeText(getApplicationContext(),message,
        Toast.LENGTH_SHORT).show();

    }

}
```

activity_main.xml

```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" android:padding="16dp"

    tools:context=".MainActivity">

    <EditText

        android:id="@+id/editTextUsername"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:hint="Username"

        android:inputType="text" />

    <EditText

        android:id="@+id/editTextPassword" android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:hint="Password"

        android:inputType="textPassword" />
```
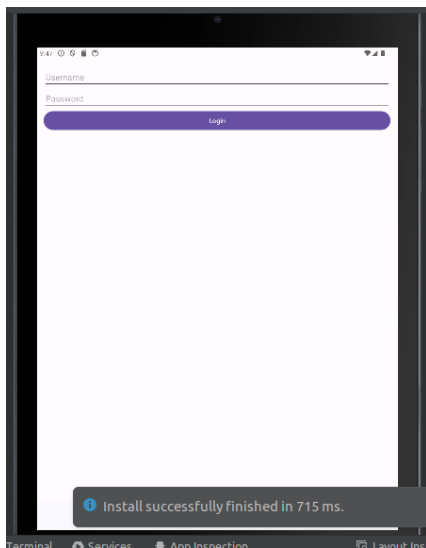
```
    <Button

        android:id="@+id/buttonLogin"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:text="Login" />

</LinearLayout
```

OUTPUT:

RESULT: The program was successfully implemented and output is obtained

EXPERIMENT NO:3   **DATE:**

 AIM: Implement validations on various UI controls.

 MainActivity.java

```java
package com.example.app2;

import androidx.appcompat.app.AppCompatActivity;

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

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    EditText editTextTextPersonName,editTextTextEmailAddress,editTextTextPassword2,
editTextPhone;

    Button button;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        editTextTextPersonName = findViewById(R.id.editTextTextPersonName);

        editTextTextEmailAddress = findViewById(R.id.editTextTextEmailAddress);

        editTextTextPassword2 = findViewById(R.id.editTextTextPassword2);

        editTextPhone = findViewById(R.id.editTextPhone);

        button = findViewById(R.id.button);

        button.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                validateForm();

            }

        });

    }

    private void validateForm() {
```

```java
        String userName = editTextTextPersonName.getText().toString().trim();

        String email = editTextTextEmailAddress.getText().toString().trim();

        String password = editTextTextPassword2.getText().toString().trim();

        String phone = editTextPhone.getText().toString().trim();

        if (userName.isEmpty() || email.isEmpty() || password.isEmpty() ||

        phone.isEmpty()) {

         Toast.makeText(this, "Please fill out all fields", Toast.LENGTH_SHORT).show();

          }

         else {

            Toast.makeText(this, "Form submitted successfully",

            Toast.LENGTH_SHORT).show();

        }

    }

}
```

activity_main.xml

```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" android:orientation="vertical"

    tools:context=".MainActivity">

    <TextView

        android:id="@+id/textView"

        android:layout_width="0dp"

        android:layout_height="wrap_content"

        android:text="Form validation"

        android:textSize="30sp"

        app:layout_constraintBottom_toTopOf="@+id/editTextTextPersonName"
```

```xml
        app:layout_constraintTop_toTopOf="parent" app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintEnd_toEndOf="parent" />

    <EditText android:id="@+id/editTextTextPersonName"

        android:layout_width="0dp"

        android:layout_height="wrap_content" android:ems="10"

        android:inputType="textPersonName"

        android:hint="UserName"

        app:layout_constraintTop_toBottomOf="@+id/textView"

        app:layout_constraintStart_toStartOf="parent" app:layout_constraintEnd_toEndOf="parent" />

    <EditText android:id="@+id/editTextTextEmailAddress"

        android:layout_width="0dp"

        android:layout_height="wrap_content" android:ems="10"

        android:inputType="textEmailAddress"

        android:hint="EmailId"

        app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName"

        app:layout_constraintStart_toStartOf="parent" app:layout_constraintEnd_toEndOf="parent" />

    <EditText android:id="@+id/editTextTextPassword2"

        android:layout_width="0dp"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="textPassword"

        app:layout_constraintTop_toBottomOf="@+id/editTextTextEmailAddress"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintEnd_toEndOf="parent" />

    <EditText android:id="@+id/editTextPhone"

        android:layout_width="0dp"

        android:layout_height="wrap_content"

        android:ems="10"

        android:inputType="phone"

        android:hint="Ph.No"

        app:layout_constraintTop_toBottomOf="@+id/editTextTextPassword2"

        app:layout_constraintStart_toStartOf="parent" app:layout_constraintEnd_toEndOf="parent" />
```

```
<Button

    android:id="@+id/button"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="Submit"

    app:layout_constraintTop_toBottomOf="@+id/editTextPhone"

    app:layout_constraintStart_toStartOf="parent" app:layout_constraintEnd_toEndOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```
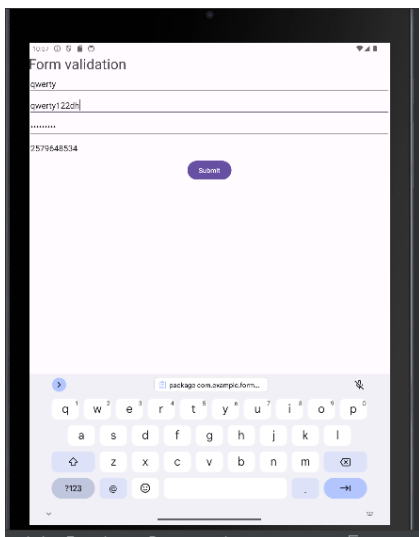
OUTPUT:

RESULT: The program was successfully implemented and output is obtained

EXPERIMENT NO:4   DATE:

 AIM: Implementing basic arithmetic operations of a simple calculator.

MainActivity.java

```java
package com.example.app2;

import  android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    EditText n1, n2;

    TextView res;

    Button add, sub, multi, div;

    double num1, num2, sum, subtract, product, quotient;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        n1 = findViewById(R.id.no1);

        n2 = findViewById(R.id.no2);

        res = findViewById(R.id.result);

        add = findViewById(R.id.add);

        sub = findViewById(R.id.sub);

        multi = findViewById(R.id.mult);div =

        findViewById(R.id.div);

        add.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                performOperation('+');
```

```java
            }
        });
        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                performOperation('-');
            }
        });
        multi.setOnClickListener(new View.OnClickListener() {

        @Override
            public void onClick(View v) {
                performOperation('*');
            }
        });
        div.setOnClickListener(new View.OnClickListener() {
        @Override
            public void onClick(View v) {
                performOperation('/');
            }
        });
    }
    private void performOperation(char operation) {
        num1 = Double.parseDouble(n1.getText().toString());
        num2 = Double.parseDouble(n2.getText().toString());
        switch (operation) {
            case '+':
                sum = num1 + num2;
                res.setText(Double.toString(sum));break;
            case '-':

                subtract = num1 - num2;
                res.setText(Double.toString(subtract));break;
```

```java
            case '*':
                product = num1 * num2;

                res.setText(Double.toString(product));break;

            case '/':

                if (num2 != 0) {

                    quotient = num1 / num2;

                    res.setText(Double.toString(quotient));

                } else {

                    res.setText("Cannot divide by zero");

                }

                break;

        }

    }

}
```

activity_main.xml

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

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

    xmlns:app="http://schemas.android.com/apk/res-auto"

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

    android:layout_width="match_parent" android:layout_height="match_parent"

    tools:context=".MainActivity" android:orientation="vertical">

<TextView

        android:id="@+id/textView1"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Calculator"

        tools:layout_editor_absoluteX="151dp"

        tools:layout_editor_absoluteY="43dp" />

    <TextView android:id="@+id/textView2"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Enter no1"
```

```
    tools:layout_editor_absoluteX="56dp"

    tools:layout_editor_absoluteY="100dp" />

<EditText

    android:id="@+id/no1"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:ems="10" android:inputType="number"

    tools:layout_editor_absoluteX="154dp"

    tools:layout_editor_absoluteY="91dp" />

<TextView android:id="@+id/textView3"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:text="Enter no2"

    tools:layout_editor_absoluteX="59dp"

    tools:layout_editor_absoluteY="165dp" />

<EditText

    android:id="@+id/no2"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:ems="10" android:inputType="number"

    tools:layout_editor_absoluteX="154dp"

    tools:layout_editor_absoluteY="149dp" />

<TextView

    android:id="@+id/textView4"

    android:layout_width="99dp"

    android:layout_height="29dp"

    android:text="Result:"

    tools:layout_editor_absoluteX="28

    dp"

    tools:layout_editor_absoluteY="41

    4dp" />

<TextView android:id="@+id/result"

    android:layout_width="161dp"
```

```xml
        android:layout_height="26dp"

        android:text=""

        tools:layout_editor_absoluteX="163dp"

        tools:layout_editor_absoluteY="414dp" />

    <Button

        android:id="@+id/add"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content" android:text="+"

        tools:layout_editor_absoluteX="116dp"

        tools:layout_editor_absoluteY="244dp" />

    <Button

        android:id="@+id/sub"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="-"

        tools:layout_editor_absoluteX="261dp"

        tools:layout_editor_absoluteY="244dp" />


    <Button

        android:id="@+id/mult"
        android:layout_width="wrap_content"

        android:layout_height="wrap_content" android:text="*"

        tools:layout_editor_absoluteX="119dp"

        tools:layout_editor_absoluteY="323dp" />

    <Button

        android:id="@+id/div"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content" android:text="/"

        tools:layout_editor_absoluteX="261dp"

        tools:layout_editor_absoluteY="323dp" />

</LinearLayout>
```

OUTPUT:

RESULT: The program was successfully implemented and output is obtained.

EXPERIMENT NO:5   **DATE:**

AIM: Write a program that demonstrates Activity Lifecycle.

```java
package com.example.app2;
import android.os.Bundle;
import android.util.Log;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    private static final String TAG = "ActivityLifecycleDemo";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d(TAG, "onCreate: Activity created");
    }
    @Override
    protected void onStart() {
        super.onStart();
        Log.d(TAG, "onStart: Activity started");
    }
    @Override
    protected void onResume() {
        super.onResume();
        Log.d(TAG, "onResume: Activity resumed");
    }
    @Override
    protected void onPause() {
        super.onPause();
        Log.d(TAG, "onPause: Activity paused"); }

    @Override
    protected void onStop() {
        super.onStop();
```

```java
        Log.d(TAG, "onStop: Activity stopped");
    }
    @Override
    protected void onDestroy() {
        super.onDestroy();
        Log.d(TAG, "onDestroy: Activity destroyed");
    }
}
```

activity_main.xml

```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">
    <LinearLayout
        android:layout_width="395dp"
        android:layout_height="715dp" android:orientation="vertical"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintBottom_toBottomOf="parent"
        tools:layout_editor_absoluteX="8dp"
        tools:layout_editor_absoluteY="8dp">
    <TextView
            android:id="@+id/textView"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Activity life cycle" />
    </LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

OUTPUT:

RESULT: The program was successfully implemented and output is obtained.

EXPERIMENT NO:6   DATE:

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

MainActivity.java

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

activity_main.xml

```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>
```
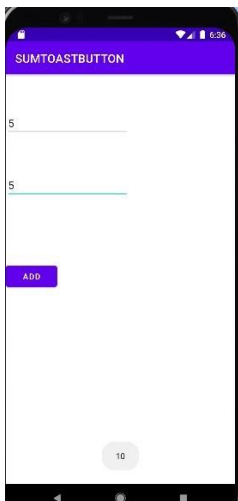
OUTPUT

RESULT: The program was implemented and result obtained successfully

LABCYCLE:2

EXPERIMENT NO:7   **DATE:**

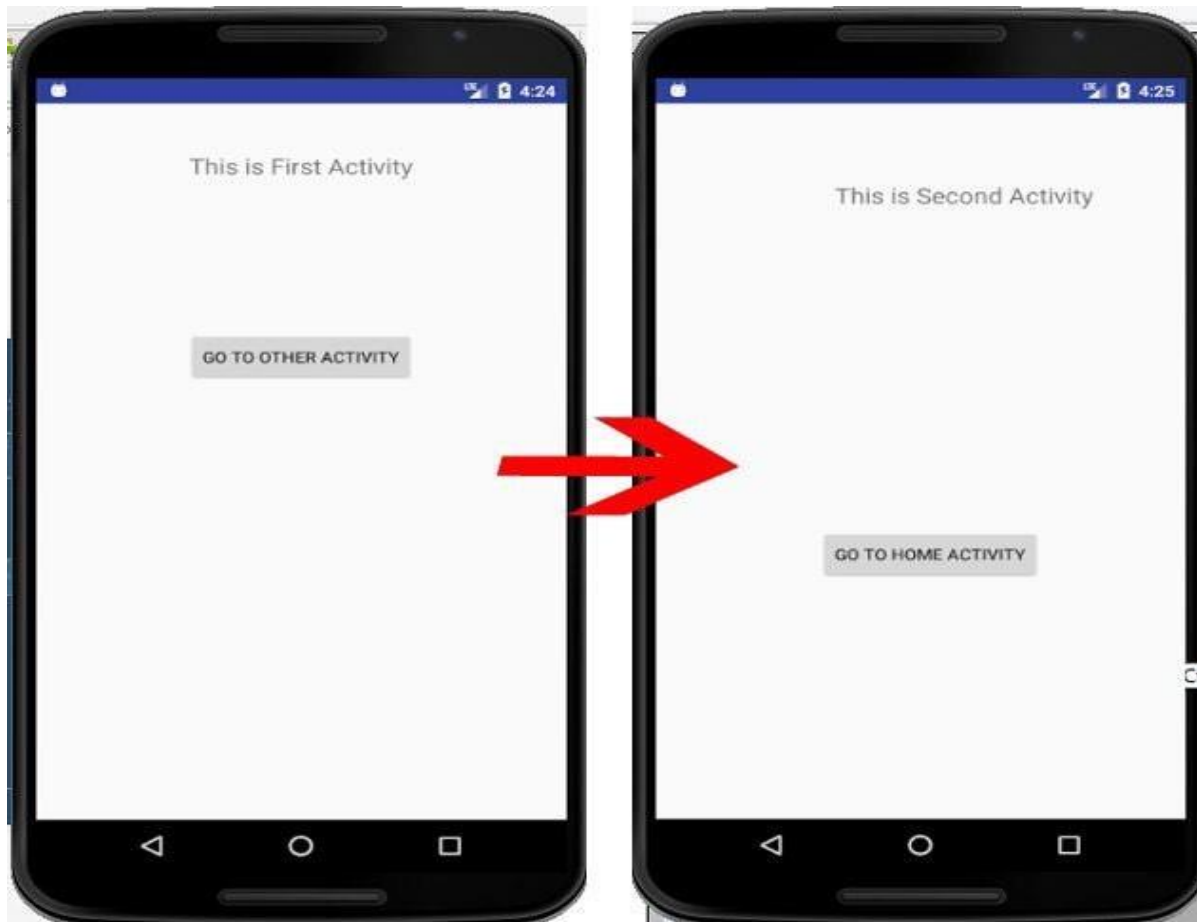**AIM:** Android to Demonstrate The Use of Implicit Intent.

Mainactivity Java.

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

activity_main.xml

```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>
```

OUTPUT

RESULT: The program was successfully implemented and output is obtained.

AIM: Android Program To Demonstrate Explicit Intent.

MainActivity.java

```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_main.xml

```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>
```

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);
```
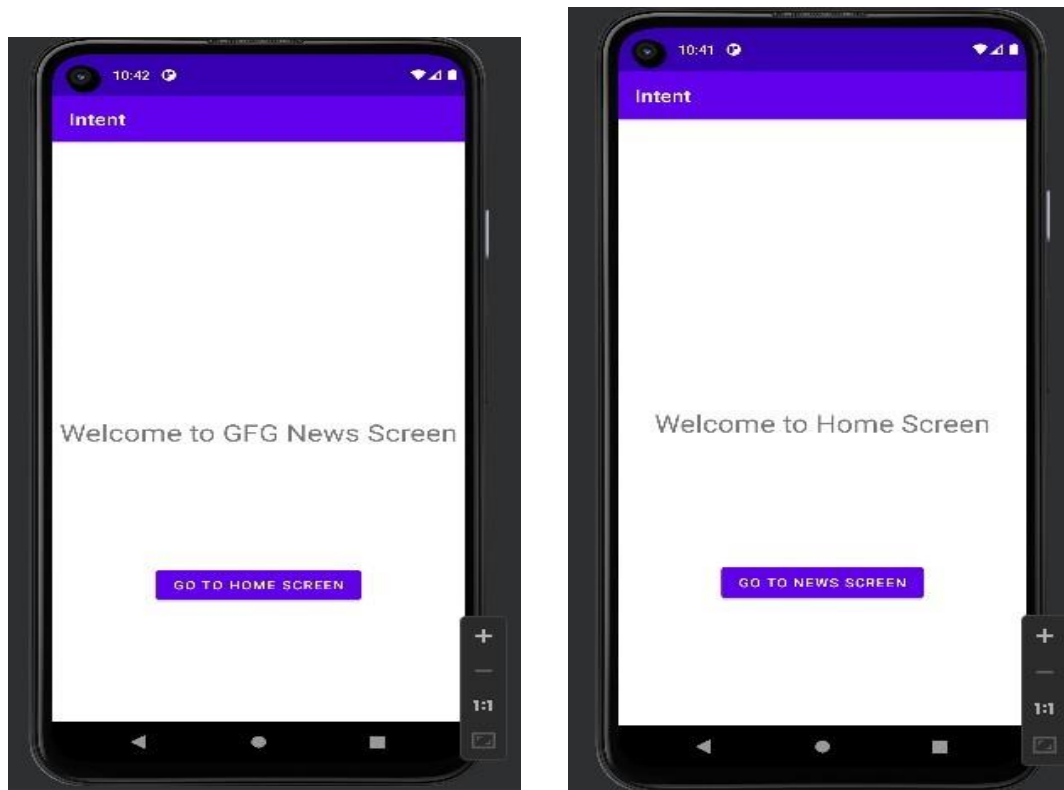
```java
            startActivity(i);
    }
}
```

activity_main2.xml

```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>

OUTPUT

RESULT: The program was successfully implemented and output is obtained.

EXPERIMENT NO : 9   **DATE :**

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

activity_main.xml:

```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"
```

```xml
        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"
```
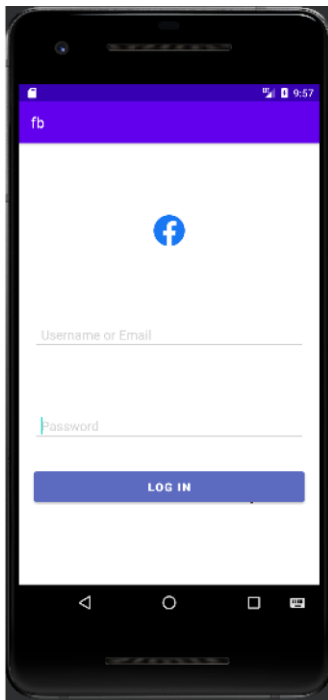
```
        android:id="@+id/txtForgotPassword"

        android:layout_gravity="center_horizontal"

        android:layout_marginTop="15dp"

        android:layout_marginBottom="15dp"

        android:text="Forgot Password"

        android:textColor="#ffffff"/>

</LinearLayout>

</RelativeLayout>
```

OUTPUT

RESULT: The program was successfully implemented and output is obtained.

LABCYCLE:3

EXPERIMENT NO : 10   DATE:

AIM: Develop an android application to implement Options Menu.

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);
}
@Override
public boolean onCreateOptionsMenu(Menu menu) {
MenuInflater inflater = getMenuInflater();
inflater.inflate(R.menu.main_menu, menu);
selectItem = (EditText)findViewById(R.id.popupmenu);
return true;
}
@Override
```

```java
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;
}
public void btnPopup(View view) {
PopupMenu popup = new PopupMenu(this, view);
popup.getMenuInflater().inflate(R.menu.main_menu, popup.getMenu());
popup.show();
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;}
```

```
        });
    }
}
```

activity_main.xml

```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>
```

Colors.xml

```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

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

Style.xml

```xml
<resources>
        <style name="AppTheme" parent="Theme.AppCompat.Light.DarkActionBar">
                <item name="colorPrimary">@color/colorPrimary</item>
                <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
                <item name="colorAccent">@color/colorAccent</item>
        </style>
</resources>
```
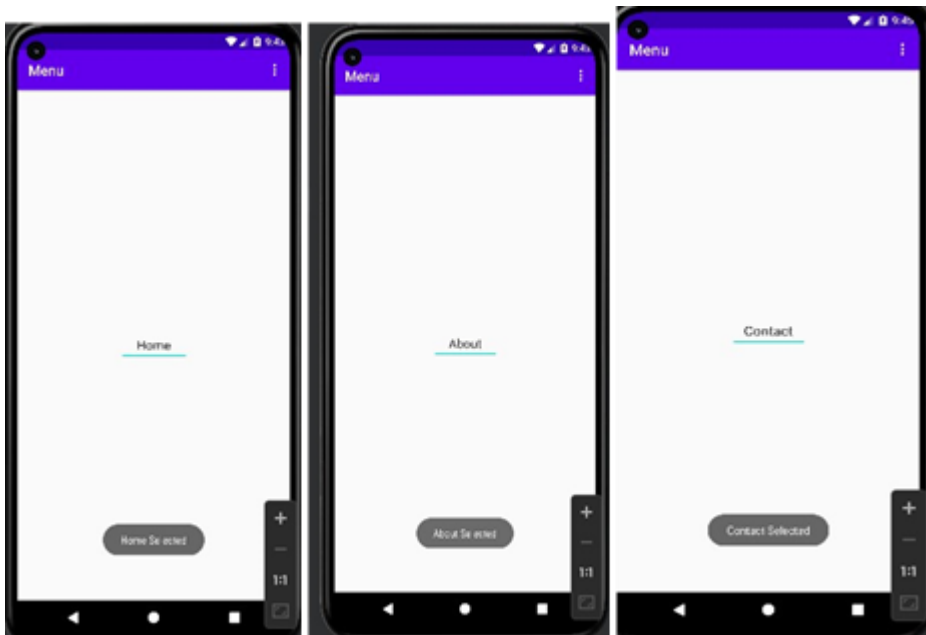
OUTPUT

RESULT: The program was successfully implemented and output is obtained.

LABCYCLE : 4

EXPERIMENT NO : 11   DATE:

AIM: Android program to demonstrate the working of Alert Box.
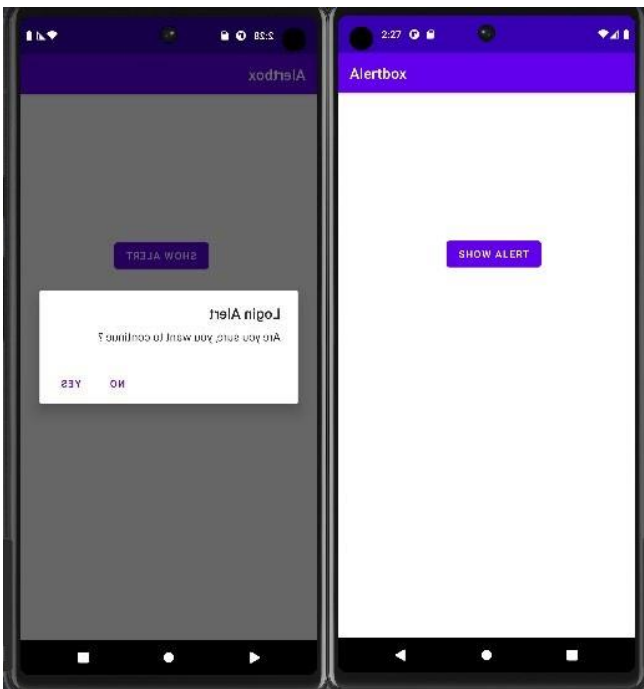
MainActivity.java

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

}}

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>

OUTPUT

RESULT: The program was successfully implemented and output is obtained.

EXPERIMENT NO : 12   DATE:

AIM: Android program to implement Spinner.

MainActivity.java

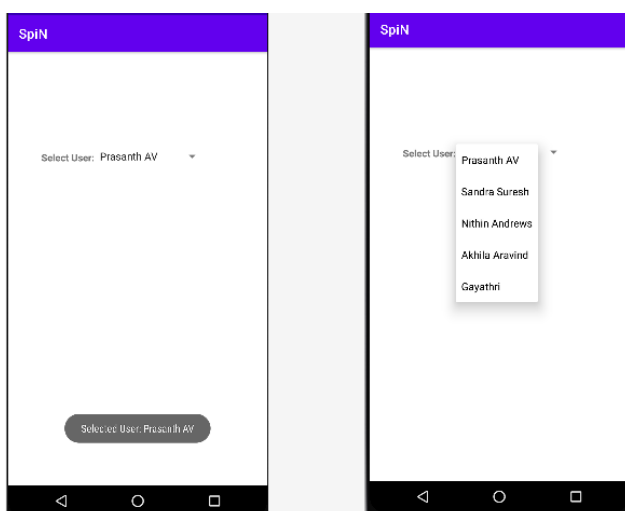```java
package com.example.spin;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemSelectedListener {
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 onItemSelected(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
}
```

**activity_main.xml**

```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" />
```

OUTPUT

RESULT: The program was successfully implemented and output is obtained.

EXPERIMENT NO : 13   **DATE:**

AIM: Android program to apply themes via code and manifest file.

Themes.xml

```xml
<resources xmlns:tools="http://schemas.android.com/tools">
<style name="Theme.Theme"
        parent="Theme.MaterialComponents.DayNight.DarkActionBar">
        <item name="colorPrimary">@color/design_default_color_primary</item>
        <itemname="colorPrimaryVariant">@color/design_default_color_primary_dark</item>
        <item name="colorOnPrimary">@color/white</item>
</style>
<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="wlcmsg">welcome to Tutlane</string>
</resources>
```

activity main.xml

```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: The program was successfully implemented and output is obtained.

EXPERIMENT NO : 14   **DATE:**

AIM: Create an android application performs CRUD operations in android SQLite.

File.xml

```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"
```

```xml
        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"
```

```xml
                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

```java
package com.androapp.data;
import android.app.Activity;
import android.app.AlertDialog.Builder;
```

```java
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){
```

```java
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 {
```
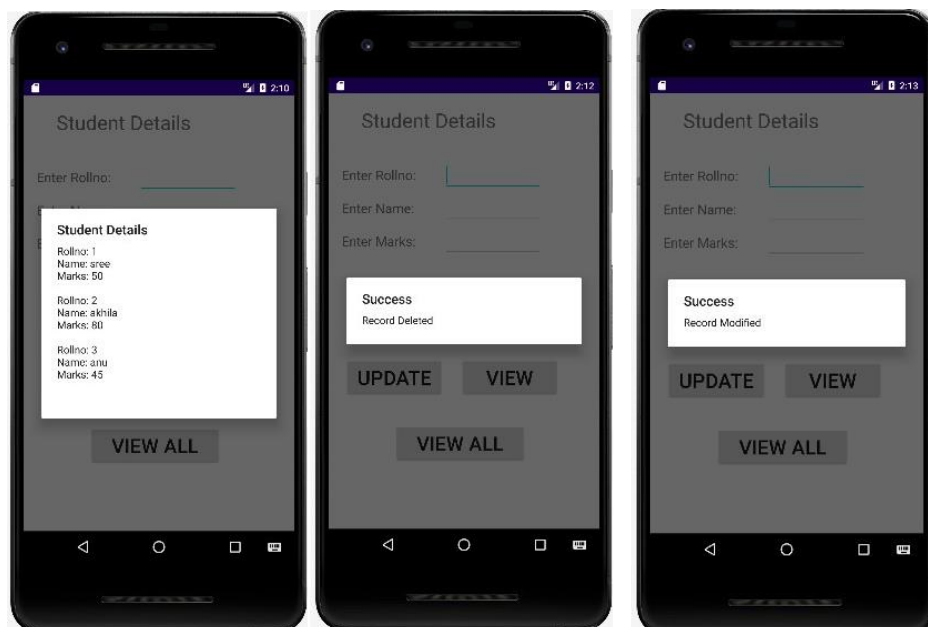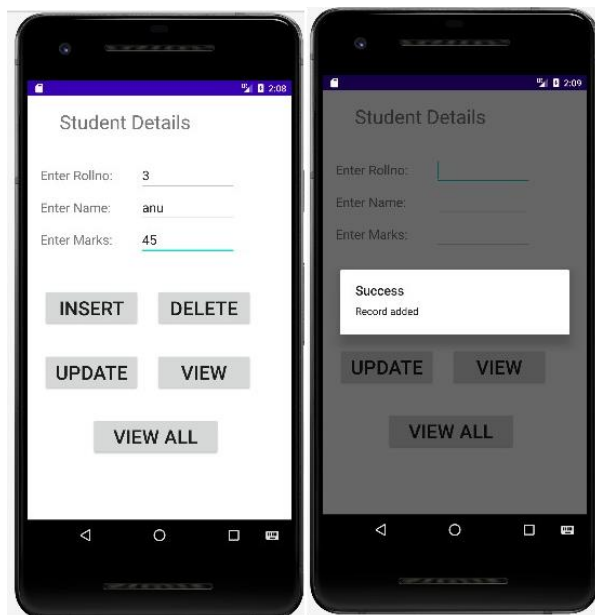
```java
showMessage("Error", "Invalid Rollno"); }
clearText(); }
if(view==View) {
if(Rollno.getText().toString().trim().length()==0) {
showMessage("Error", "Please enter Rollno");
return; }
Cursor c=db.rawQuery("SELECT * FROM student WHERE rollno='"+Rollno.getText()+"'", null);
if(c.moveToFirst()) {
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: The program was successfully implemented and output is obtained.

LABCYCLE : 5

EXPERIMENT NO : 15   DATE:

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

Entry.xml

```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" />
```

```xml
<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
<?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
<?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" />
```

```xml
<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" />
```

```xml
<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" />
```

```xml
<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" />
```

```xml
<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" />
```

```xml
    <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

```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{
```

```java
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_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);
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)   {
```

```java
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();    }
}
```

```java
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

```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) {
```
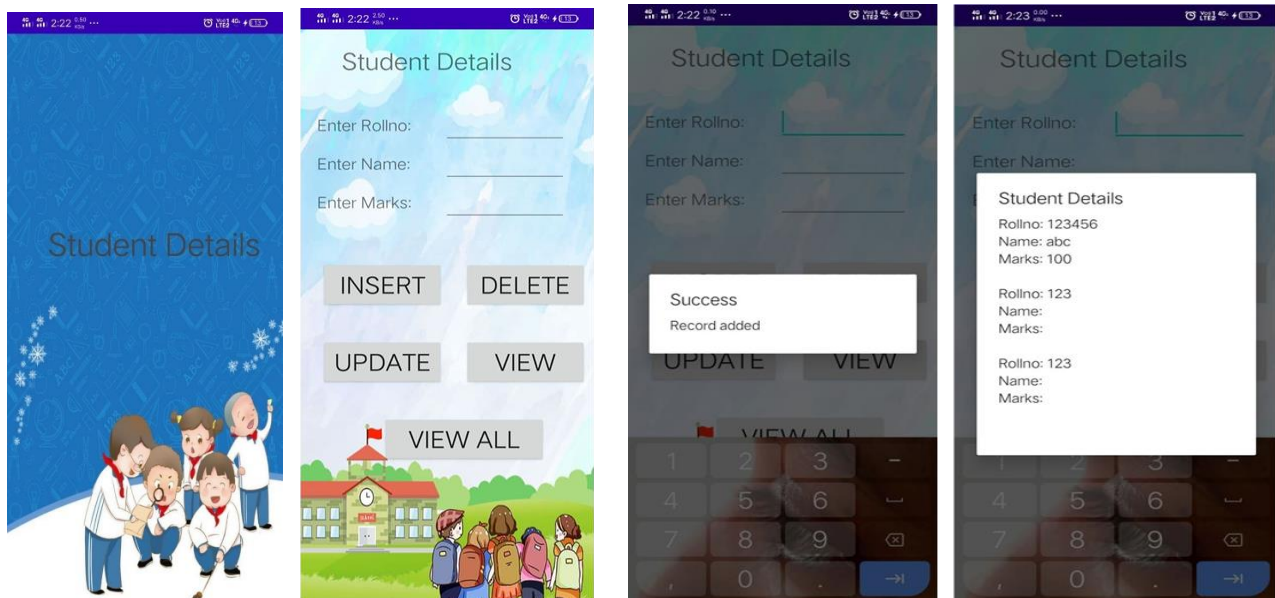
```
super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

Objects.requireNonNull(getSupportActionBar()).hide();

new Handler().postDelayed(() -> {

startActivity(new Intent(MainActivity.this,Entry.class));

finish();

}, 2000);

}

}
```

OUTPUT

RESULT: The program was successfully implemented and output is obtained.