# Experiment No.: 1

## Aim

Design a Login Form with username and password using Linear Layout and toast valid redentials

## CO1

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

## Procedure

## 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"
   tools:context=".MainActivity">
   <TextView
      android:id="@+id/login"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:text="Login Form"/>
   <EditText
      android:id="@+id/username"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_below="@id/login"
      android:hint="Enter UserName"
      android:inputType="textEmailAddress" />
   <EditText
```

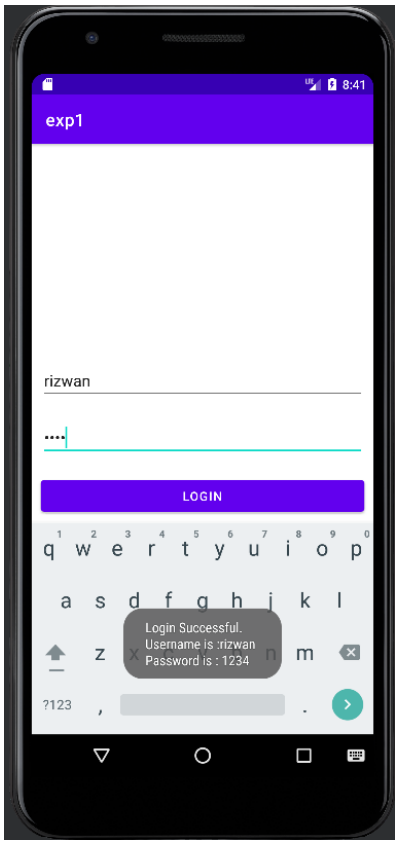
```
        android:id="@+id/password"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/username"
        android:hint="Enter Password"
        android:inputType="textPassword" />
    <Button
        android:id="@+id/idBtnLogin"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/password"
        android:text="Login" />
</RelativeLayout>
```

**MainActivity.java**

```
package com.example.rizwan;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        EditText un =(EditText) findViewById(R.id.username);
```

```
        EditText pw =(EditText) findViewById(R.id.password);
        Button btn =(Button) findViewById(R.id.idBtnLogin);
        btn.setOnClickListener(view -> {
            String uname = un.getText().toString();
            String passwd = pw.getText().toString();
                Toast.makeText(this,"invalid username/password",Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```

## Output Screenshot




## Result

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

## Experiment No.: 2

## Aim

Write a program that demonstrates Activity Lifecycle.

## CO1

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

## Procedure

## Activity_main.xml

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

## MainActivity.java

```
package com.example.rizwan;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
public class MainActivity extends AppCompatActivity {
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      Log.d("Lifecycle", "onCreate invoked");}
   protected void onStart() {
      super.onStart();
      Log.d("Lifecycle", "onStart invoked");
   }
   protected void onResume() {
      super.onResume();
      Log.d("Lifecycle", "onResume invoked");
   }
   protected void onPause() {
      super.onPause();
```

```
    Log.d("Lifecycle", "onPause invoked");
  }
  protected void onStop() {
    super.onStop();
    Log.d("Lifecycle", "onStop invoked");
  }
  protected void onDestroy() {
    super.onDestroy();
    Log.d("Lifecycle", "onDestroy invoked");
  }}
```

## Output Screenshot


## Result

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

## Experiment No.: 3

## Aim

Implementing basic arithmetic operations of a simple calculator

## CO1

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

## Procedure

## 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:id="@+id/activity_main"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:orientation="vertical"
   android:textAlignment="center"
   android:weightSum="1">
   <TextView
      android:text="calculator"
      android:layout_width="match_parent"
      android:id="@+id/textView"/>
   <EditText
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:inputType="number"
      android:id="@+id/editOp1"/>
   <EditText
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:inputType="number"
      android:id="@+id/editOp2"/>
   <LinearLayout
      android:orientation="horizontal"
      android:layout_width="match_parent"
      android:layout_height="wrap_content">
      <Button
         android:text="+"
         android:layout_width="78dp"
         android:layout_height="wrap_content"
```

```
        android:id="@+id/btnadd"/>
    <Button
        android:text="-"
        android:layout_width="78dp"
        android:layout_height="wrap_content"
        android:id="@+id/btnsub"/>
  </LinearLayout>
  <LinearLayout
    android:orientation="horizontal"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <Button
        android:text="*"
        android:layout_width="78dp"
        android:layout_height="wrap_content"
        android:id="@+id/btnmul"/>
    <Button
        android:text="/"
        android:layout_height="wrap_content"
        android:id="@+id/btndiv"/>
  </LinearLayout>
  <LinearLayout
    android:orientation="horizontal"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <Button
        android:text="Clear"
        android:layout_width="80dp"
        android:layout_height="wrap_content"
        android:id="@+id/btnclr"/>
  </LinearLayout>
  <EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="number"
    android:id="@+id/result"/>
</LinearLayout>
```

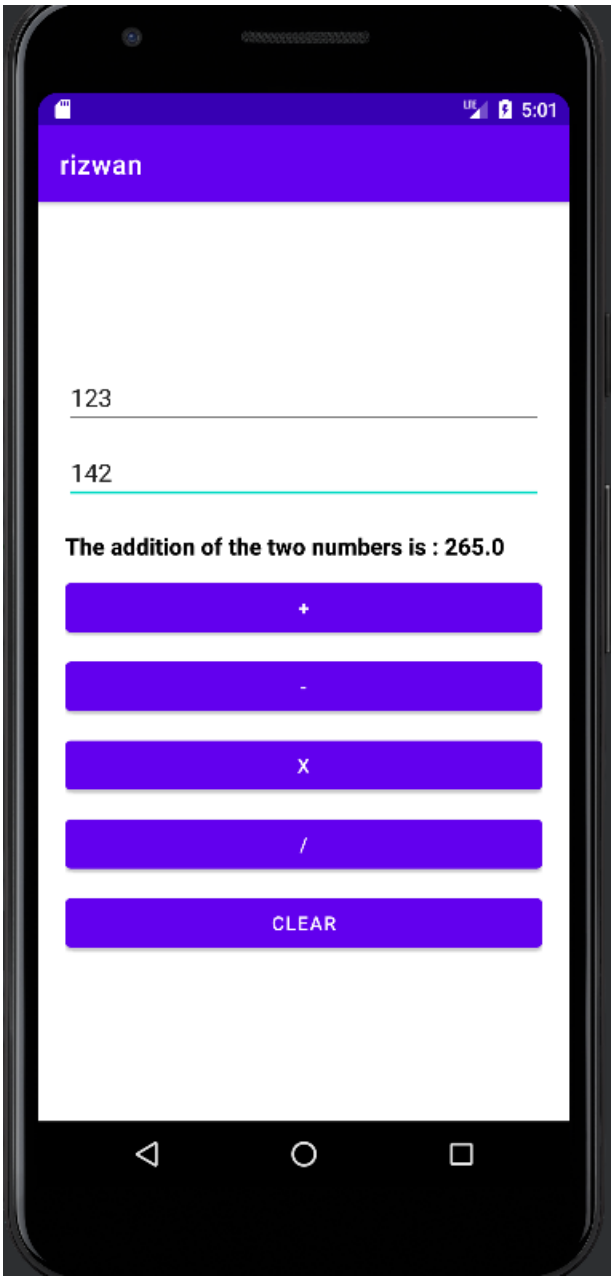
## MainActivity.java

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

```
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    EditText opr1;
    EditText opr2;
   Button btnadd;
   Button btnsub;
   Button btnmul;
   Button btndiv;
   Button btnclr;
   TextView txtresult;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      opr1 =  findViewById(R.id.editOp1);
      opr2 = findViewById(R.id.editOp2);
      btnadd = findViewById(R.id.btnadd);
      btnsub = findViewById(R.id.btnsub);
      btnmul =findViewById(R.id.btnmul);
      btndiv = findViewById(R.id.btndiv);
      btnclr = findViewById(R.id.btnclr);
      txtresult= findViewById(R.id.result);
      btnadd.setOnClickListener(new View.OnClickListener() {          @Override
         public void onClick(View v) {
            if((opr1.getText().length()>0) && (opr2.getText().length()>0)) {
               double oper1 = Double.parseDouble(opr1.getText().toString());
               double oper2 = Double.parseDouble(opr2.getText().toString());
               double result = oper1 + oper2;
               txtresult.setText(Double.toString(result));
            } else{
               Toast toast= Toast.makeText(MainActivity.this,"Enter The Required
Numbers",Toast.LENGTH_LONG);
               toast.show();
            }          }       });
      btnsub.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {
            if((opr1.getText().length()>0) && (opr2.getText().length()>0)) {
               double oper1 = Double.parseDouble(opr1.getText().toString());
               double oper2 = Double.parseDouble(opr2.getText().toString());
               double result = oper1 - oper2;
```

```
            txtresult.setText(Double.toString(result));
        }           else{
            Toast toast= Toast.makeText(MainActivity.this,"Enter The Required
Numbers",Toast.LENGTH_LONG);
            toast.show();
        }       }       });
    btnmul.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            if((opr1.getText().length()>0) && (opr2.getText().length()>0)) {
                double oper1 = Double.parseDouble(opr1.getText().toString());
                double oper2 = Double.parseDouble(opr2.getText().toString());
                double result = oper1 * oper2;
                txtresult.setText(Double.toString(result));
            }           else{
                Toast toast= Toast.makeText(MainActivity.this,"Enter The Required
Numbers",Toast.LENGTH_LONG);
                toast.show();
            }       }       });
    btndiv.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            if((opr1.getText().length()>0) && (opr2.getText().length()>0)) {
                double oper1 = Double.parseDouble(opr1.getText().toString());
                double oper2 = Double.parseDouble(opr2.getText().toString());
                double result = oper1 / oper2;
                txtresult.setText(Double.toString(result));
            }           else{
                Toast toast= Toast.makeText(MainActivity.this,"Enter The Required
Numbers",Toast.LENGTH_LONG);
                toast.show();           }       }       });
    btnclr.setOnClickListener(new View.OnClickListener() { @Override
        public void onClick(View v) {
            opr1.setText("");
            opr2.setText("");
            txtresult.setText("0.00");
            opr1.requestFocus();
        }   });    }}
```

## Output Screenshot




## Result

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

## Experiment No.: 4

## Aim

Implement validations on various UI controls

## CO1

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

## Procedure

## 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">
   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content”
      android:text="Form Validation"/>
   <EditText
      android:id="@+id/firstName"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:hint="First Name"
      android:inputType="text" />
   <EditText
      android:id="@+id/lastName"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:hint="Last Name"
      android:inputType="text" />
   <EditText
      android:id="@+id/email"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:hint="Email"
      android:inputType="textEmailAddress" />
   <EditText
      android:id="@+id/password"
```

```
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      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:text="CANCEL"
         android:textColor="@color/black" />
      <Button
         android:id="@+id/proceedButton"
         android:backgroundTint="@color/black"
         android:text="PROCEED"
         android:textColor="@android:color/white"/>
   </LinearLayout>
</LinearLayout>
```

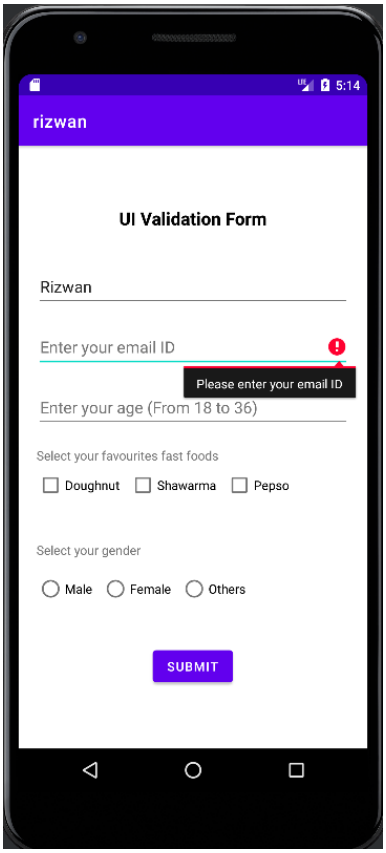
## MainActivity.java

```
package com.example.rizwan;

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;

     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 = CheckAllFields();
            if (isAllFieldsChecked) {
                Intent i = new Intent(MainActivity.this, MainActivity.class);
                startActivity(i);
            }           }       });
    bCancel.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            MainActivity.this.finish();
            System.exit(0);
        }       });    }
  private boolean CheckAllFields() {
    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 Screenshot




## Result

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

# Experiment No.: 5

## Aim

Design a registration activity and store registration details in local memory of phone using Intents and Shared Preferences

## CO2

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

## Procedure

### Activity_main.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:orientation="vertical"
   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="prgm4 shared preference "
      android:id="@+id/textView"
      android:textSize="29dp" />
   <EditText
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/editText"
      android:layout_below="@+id/textView2"
      android:hint="Name"/>
   <EditText
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/editText3"
      android:layout_below="@+id/editText2"
      android:hint="Email" />
   <EditText
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/editText2"
```

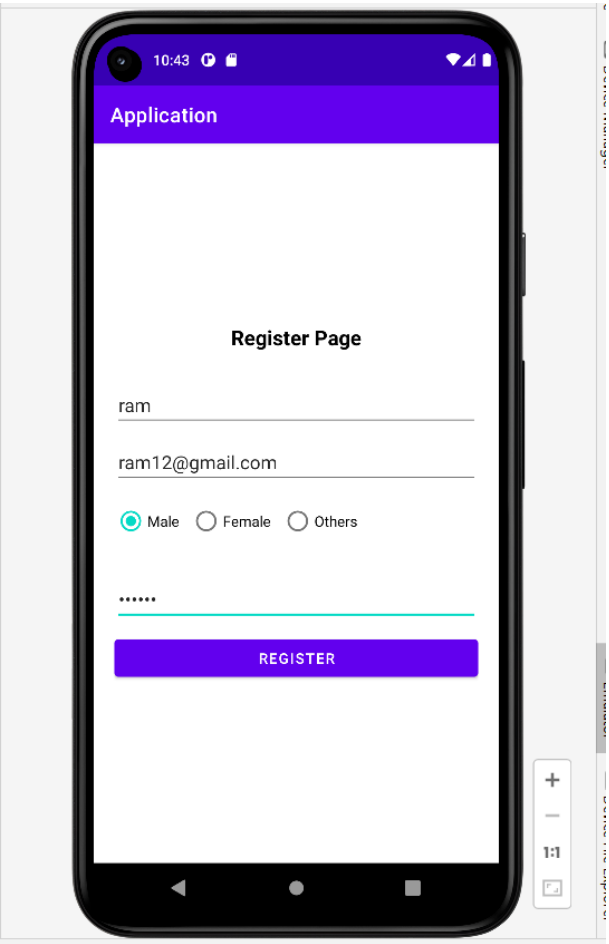
```
        android:layout_below="@+id/editText"
        android:hint="Pass" />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Save"
        android:id="@+id/button"
        android:layout_below="@+id/editText3" />
</LinearLayout>
```

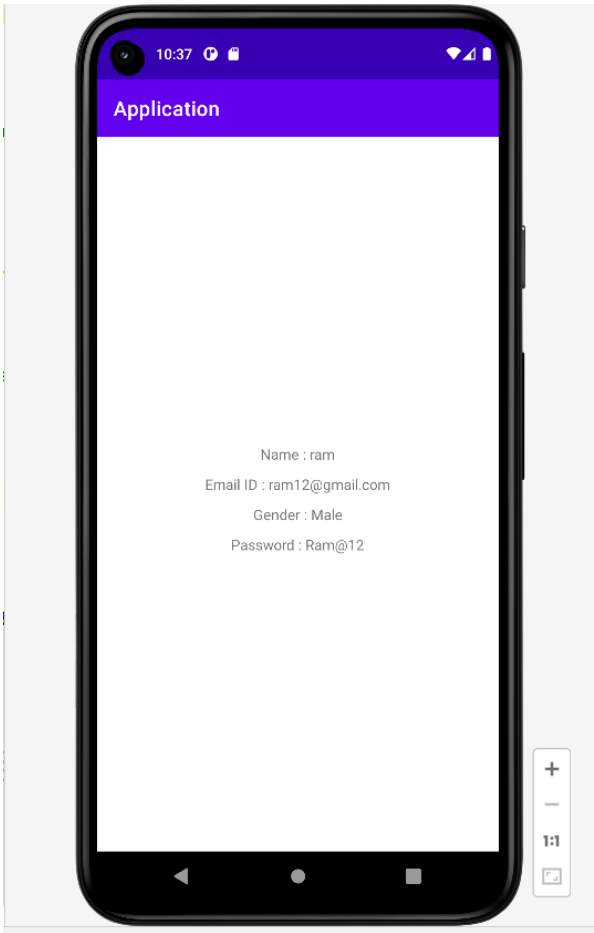
**MainActivity.java**

```
package com.example.rovumvarghese;
        import androidx.appcompat.app.AppCompatActivity;
        import android.content.Context;
        import android.content.SharedPreferences;
        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 ed1,ed2,ed3;
    Button b1;
    public static final String MyPREFERENCES = "MyPrefs" ;
    public static final String Name = "nameKey";
    public static final String Phone = "phoneKey";
    public static final String Email = "emailKey";
    SharedPreferences sharedpreferences;
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ed1=(EditText)findViewById(R.id.editText);
        ed2=(EditText)findViewById(R.id.editText2);
        ed3=(EditText)findViewById(R.id.editText3);
        b1=(Button)findViewById(R.id.button);
        sharedpreferences = getSharedPreferences(MyPREFERENCES,
Context.MODE_PRIVATE);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String n  = ed1.getText().toString();
                String ph  = ed2.getText().toString();
                String e  = ed3.getText().toString();
                SharedPreferences.Editor editor = sharedpreferences.edit();
```

```
        editor.putString(Name, n);
        editor.putString(Phone, ph);
        editor.putString(Email, e);
        editor.commit();
        Toast.makeText(MainActivity.this,"Thanks",Toast.LENGTH_LONG).show();
    }       });    }}
```

## Output Screenshot




## Result

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

# Experiment No.: 6

## Aim

Design a simple Calculator using GridLayout and Cascaded LinearLayout

## CO2

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

## Procedure

### 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:orientation="vertical"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity">
  <TextView
    android:layout_height="match_parent"
    android:layout_width="match_parent"
    android:text="0"
    android:layout_above="@+id/gridLayout" />
 <GridLayout
    android:id="@+id/gridLayout"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_alignParentBottom="true"
    android:columnCount="4"
    android:rowCount="5"
    android:orientation="horizontal"
    android:useDefaultMargins="false">
  <Button android:text="C" />
  <Button android:text="BS" />
  <Button android:text="/" />
  <Button android:text="x" />
  <Button android:text="7" />
  <Button android:text="8" />
  <Button android:text="9" />
  <Button android:text="-" />
```

```
  <Button android:text="4" />
  <Button android:text="5" />
  <Button android:text="6" />
  <Button android:text="+" />
  <Button   android:text="1" />
  <Button android:text="2" />
  <Button android:text="3" />
  <Button android:layout_gravity="fill_vertical"
     android:layout_rowSpan="2"
     android:text="=" />
  <Button
     android:layout_gravity="fill_horizontal"
     android:layout_columnSpan="2"
     android:text="0" />
  <Button
     android:text="." />
 </GridLayout>
</RelativeLayout>
```

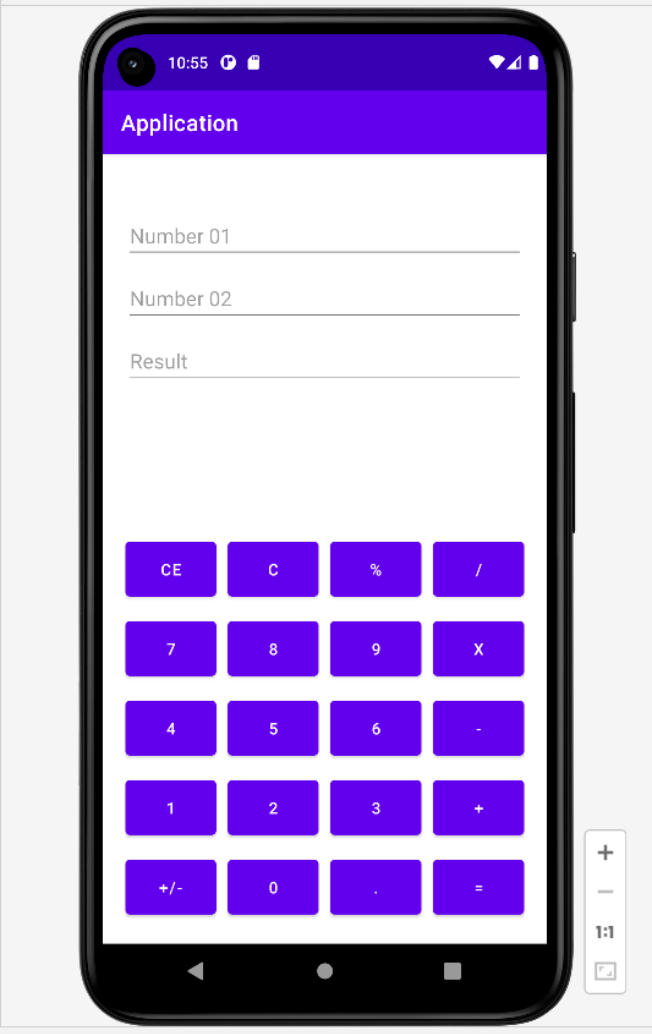
**CascadedLayoutActivity.java**

```
package com.example.application;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class Ques06CascadedLayoutActivity extends AppCompatActivity {
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_ques06_cascaded_layout);
   }
}
```

**CascadedLayoutActivity.java**

```
package com.example.application;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class Ques06GridLayoutActivity extends AppCompatActivity {
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_ques06_grid_layout);

   }
}
```

## Output Screenshot




## Result

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

## Experiment No.: 7

## Aim

Create a Facebook page using Relative Layout; set properties using .xml file

## CO2

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

## Procedure

## Activity_main.xml

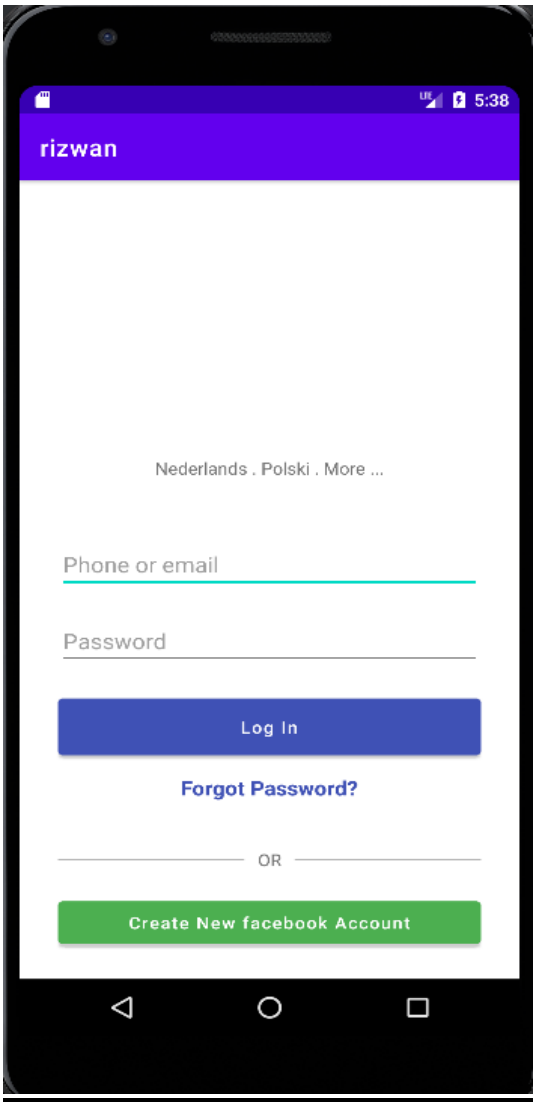
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"    android:layout_height="match_parent"
   tools:context=".MainActivity">
   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="FACEBOOK"
      android:textColor="#4267B2"
      android:textSize="30dp"       android:textStyle="bold"
      android:layout_marginTop="60dp"/>
   <TextView
      android:text="Log in to Facebook"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:textSize="30dp"       android:textStyle="bold"
      android:gravity="center_horizontal"/>
   <EditText
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:inputType="number"
      android:ems="10"
      android:textSize="18sp"
      android:gravity="center_horizontal"
      android:elevation="1dp"       android:hint="Email address or phone number"
      android:layout_marginLeft="30dp"
      android:layout_marginRight="30dp"
      android:layout_marginTop="200dp"/>
   <EditText
      android:layout_width="match_parent"
```

```
      android:layout_height="wrap_content"
      android:inputType="number"
      android:textSize="18sp"
      android:gravity="center_horizontal"
      android:hint="password" />
   <Button
      android:text="Log In"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:backgroundTint="#4267B2"/>
   <TextView
      android:text="Forgotten account? · Sign up for Facebook"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:textSize="17dp"
      android:textStyle="italic"
      android:textColor="#4267B2 />
</RelativeLayout>
```

**Activity.java**

```
package com.example.application;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class Ques07Activity extends AppCompatActivity {

   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_ques07);
   }
}
```

## Output Screenshot




## Result

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

# Experiment No.: 8

## Aim

Develop an application that toggles image using Frame Layout

## CO2

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

## Procedure

### Activity_main.xml

```
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
   android:orientation="vertical"
   android:layout_width="match_parent"
   android:layout_height="match_parent">
   <ImageView
      android:id="@+id/first_image"
      android:src = "@drawable/a"
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:scaleType="fitXY" />
   <ImageView
      android:id="@+id/second_image"
      android:src = "@drawable/b"
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:scaleType="fitXY" />
   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Click the image to switch"
      android:layout_gravity="center_horizontal|bottom"
      android:padding="5dip"
      android:textColor="#ffffff"
      android:textStyle="bold"
      android:background="#333333"
      android:layout_marginBottom="10dip" />
</FrameLayout>
```

## MainActivty.java

```
package com.example.rizwan;

import android.app.Activity;
```

```
import android.os.Bundle;
import android.view.View.OnClickListener;
import android.view.View;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
   public void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      final ImageView first_image = (ImageView)this.findViewById(R.id.first_image);
      final ImageView second_image = (ImageView)this.findViewById(R.id.second_image);
      first_image.setOnClickListener(new OnClickListener(){
         public void onClick(View view) {
            second_image.setVisibility(View.VISIBLE);
            view.setVisibility(View.GONE); }       });
      second_image.setOnClickListener(new OnClickListener(){
         public void onClick(View view) {
            first_image.setVisibility(View.VISIBLE);
            view.setVisibility(View.GONE); }       });    }}
```

## Output Screenshot



## Result

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

## Experiment No.: 9

## Aim

Implement Adapters and perform exception handling

## CO3

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

## Procedure

## Activity_main.xml

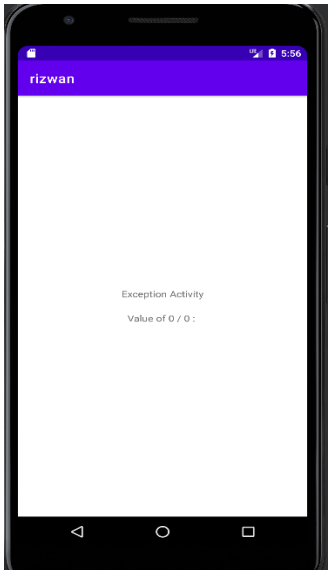
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:orientation="vertical"
   tools:context=".MainActivity">
   <EditText
      android:id="@+id/first"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:ems="10"
      android:hint="enter first value"  />
   <EditText
      android:id="@+id/second"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:ems="10"
      android:hint="enter second value" />
   <Button
      android:id="@+id/btn"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:text="Button" />
</LinearLayout>
```

## MainActivity.java

```
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.os.Bundle;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      EditText et1 = (EditText)findViewById(R.id.first);
      EditText et2 = (EditText)findViewById(R.id.second);
      Button butt = (Button) findViewById(R.id.btn);
      butt.setOnClickListener(view -> {
         int x = Integer.parseInt(et1.getText().toString());
         int y = Integer.parseInt(et2.getText().toString());
         try{
            int c = x / y;
            Toast.makeText(getApplicationContext(), "result :"+c,
Toast.LENGTH_SHORT).show();
         }catch (Exception e){
            Toast.makeText(getApplicationContext(), "error", Toast.LENGTH_SHORT).show();
         }       });    }}
```

## Output Screenshot




## Result

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

# Experiment No.: 10

## Aim

Implement Intent to navigate between multiple activities

## CO3

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

## Procedure

### Activity_main1.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="good morning"
      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="next 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>
```

**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="good evening"
      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="next Screen"
      android:onClick="next Screen"
      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>
```

**MainActivity1.java**

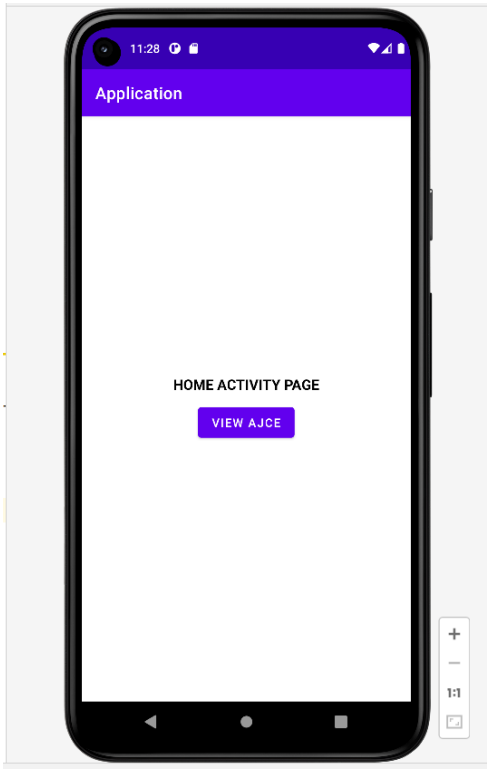
```
package com.example.program6;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
public class MainActivity extends AppCompatActivity {
   @Override
   protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main); }
    public void newsScreen(View view) {
        Intent i = new Intent(getApplicationContext(), MainActivity2.class);
        startActivity(i); }}
```

**MainActivity2.java**

```
package com.example.program6;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
public class MainActivity2 extends AppCompatActivity {
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2); }
    public void newsScreen(View view) {
        Intent i = new Intent(getApplicationContext(), MainActivity2.class);
        startActivity(i); }}
```

## Output Screenshot





## Result

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

# Experiment No.: 11

## Aim

Develop application that works with explicit intents

## CO3

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

## Procedure

### Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:orientation="vertical"
    tools:context=".Ques11Activity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="First Activity Page" />

    <Button
        android:id="@+id/goto_second_btn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Go to Second Activity Page"
        android:layout_marginTop="10dp"/>

</LinearLayout>
```

**MainActivity.java**

```
package com.example.rizwan;
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 {
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      EditText fn=(EditText)findViewById(R.id.fn);
      Button proceed=(Button)findViewById(R.id.proceed);
      proceed.setOnClickListener(new View.OnClickListener() {
         public void onClick(View v) {
            String url=fn.getText().toString();
            Intent intent=new Intent(Intent.ACTION_VIEW, Uri.parse(url));
            startActivity(intent);
         }       });    }}
```

## Output Screenshot


## Result

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

## Experiment No.: 12

## Aim

Implement Options Menu to navigate to activities

## CO3

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

## Procedure

### Activity_main.xml

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

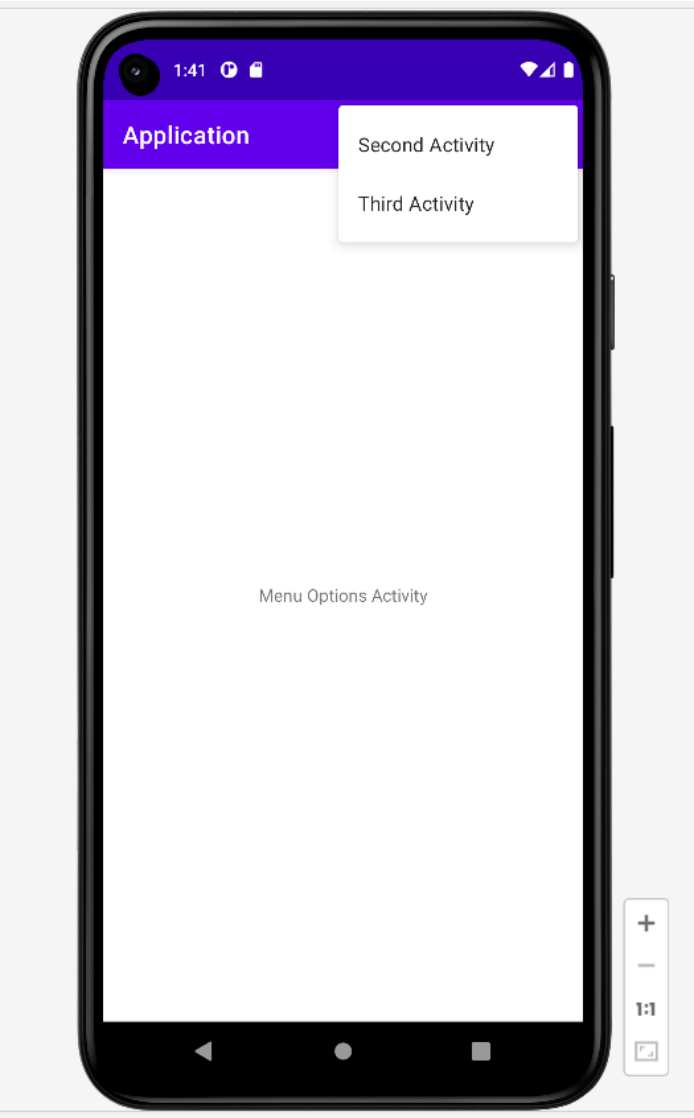
```
package com.example.rizwan;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
   @Override
   protected void onCreate(Bundle savedInstanceState)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

```
   @Override
   public boolean onCreateOptionsMenu(Menu menu) {
      getMenuInflater().inflate(R.menu.mainmenu, menu);
      return true;
   }    @Override
   public boolean onOptionsItemSelected(MenuItem item) {
      Toast.makeText(this, "Selected Item: " +item.getTitle(), Toast.LENGTH_SHORT).show();
      switch (item.getItemId()) {
         case R.id.search_item:
            return true;
         case R.id.upload_item:
            return true;
         case R.id.copy_item:
            return true;
         case R.id.print_item:
            return true;
         case R.id.share_item:
            return true;
         case R.id.bookmark_item:
            return true;
         default:
            return super.onOptionsItemSelected(item);
      }    }}
```

**Mainmenu.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
   <item android:id="@+id/search_item"
      android:title="Search" />
   <item android:id="@+id/upload_item"
      android:title="Upload" />
   <item android:id="@+id/copy_item"
      android:title="Copy" />
   <item android:id="@+id/print_item"
      android:title="Print" />
   <item android:id="@+id/share_item"
      android:title="Share" />
   <item android:id="@+id/bookmark_item"
      android:title="BookMark" />
      app:showAsAction="withText"/>
</menu>
```

## Output Screenshot




## Result

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

# Experiment No.: 13

## Aim

Develop an application that uses Array Adapter with List View.

## CO3

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

## Procedure

### Activity_main.xml

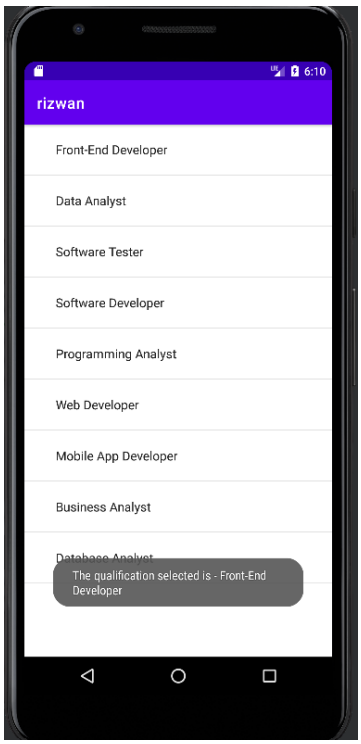
```
<?xml version="1.0" encoding="utf-8"?>

<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">

<ListView android:id="@+id/listview "

android:layout_width="match_parent" android:layout_height="match_parent" />

</LinearLayout>
```

### MainActivity.java

```
package com.example.application;
import
androidx.appcompat.app.AppCompat
Activity;import android.os.Bundle;
import
android.widget.Array
Adapter;import
android.widget.ListVi
ew; import
android.widget.Toast;

public class Ques13Activity extends
   AppCompatActivity {@Override
   protected void onCreate(Bundle
      savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_q
```

```
ues13);ListView listview;
String[] person_qualify = {"Front-End Developer", "Data Analyst", "Software
Tester", "Software Developer", "Programming Analyst", "Web Developer", "Mobile
App Developer", "Business Analyst","Database Analyst"};
listview =
findViewById(R.id.listv
iew);
listview.setAdapter(new
ArrayAdapter(getApplicationContext(),android.R.layout.simple_expandable_list_item_1,
person_qualify));listview.setOnItemClickListener((parent, view, position, id) -> {
   Toast.makeText(this, "The qualification selected is - " +
person_qualify[position],Toast.LENGTH_SHORT).show();
});}}
```

## Output Screenshot




## Result

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

# Experiment No.: 14

## Aim

Develop an application that use Grid View with images and display Alert box on selection

## CO4

Implement activities with dialogs, spinner, fragments and navigation drawer by applying themes

## Procedure

**Activity_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity">
 <GridView
    android:id="@+id/gv1"
    android:verticalSpacing="1dp"
    android:horizontalSpacing="1dp"
    android:numColumns="2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
 </GridView>
</RelativeLayout>
```

**Row_data.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">
   <RelativeLayout
      android:id="@+id/gv12"
      android:layout_width="190dp"
      android:layout_height="180dp"
      android:background ="#fff"       >
      <TextView
         android:id="@+id/tvid"
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:layout_centerHorizontal="true"
         android:text="Apple"
```

```
        android:textSize="25dp" />
    <ImageView
        android:id="@+id/imgview"
        android:layout_width="90dp"
        android:layout_height="90dp"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="50dp"
        android:layout_marginTop="45dp"
        android:layout_marginEnd="50dp"
        android:layout_marginBottom="45dp"
        android:src="@drawable/d" />
  </RelativeLayout>
</RelativeLayout>
```

**MainActivity.java**

```
package com.example.rizwan;
import androidx.appcompat.app.AppCompatActivity;
import android.media.Image;
import android.os.Bundle;
import android.view.View;
import android.view.ViewGroup;
import android.widget.AdapterView;
import android.widget.BaseAdapter;
import android.widget.CursorAdapter;
import android.widget.GridView;
import android.widget.ImageView;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
  GridView gridView;
  String[] frtname={"apple","orange"};
  int[] frtimg={R.drawable.c,R.drawable.d};
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    gridView= findViewById(R.id.gv1);
    CustomAdaptor customadaptor = new CustomAdaptor();
    gridView.setAdapter(customadaptor);
    gridView.setOnItemClickListener(new AdapterView.OnItemClickListener() {
```

```
        public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {
            Toast.makeText(MainActivity.this, "name :"+frtname[i],
Toast.LENGTH_SHORT).show();
        }       });    }
   private class CustomAdaptor extends BaseAdapter {       @Override
      public int getCount() {
         return frtimg.length;
      }
      public Object getItem(int i) {
         return null;
      }
      public long getItemId(int i) {
         return 0;
      }
      public View getView(int i, View view, ViewGroup viewGroup) {
         View view1 =getLayoutInflater().inflate(R.layout.row_data,null);
         TextView name=view1.findViewById(R.id.tvid);
         ImageView img = view1.findViewById(R.id.imgview);
         name.setText(frtname[i]);
         img.setImageResource(frtimg[i]);
         return view1; }    }}
```

## Output Screenshot



## Result

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

## Experiment No.: 15

## Aim

Develop an application that implements Spinner component and perform event handling

## CO4

Implement activities with dialogs, spinner, fragments and navigation drawer by applying themes

## Procedure

## Activity_main.xml

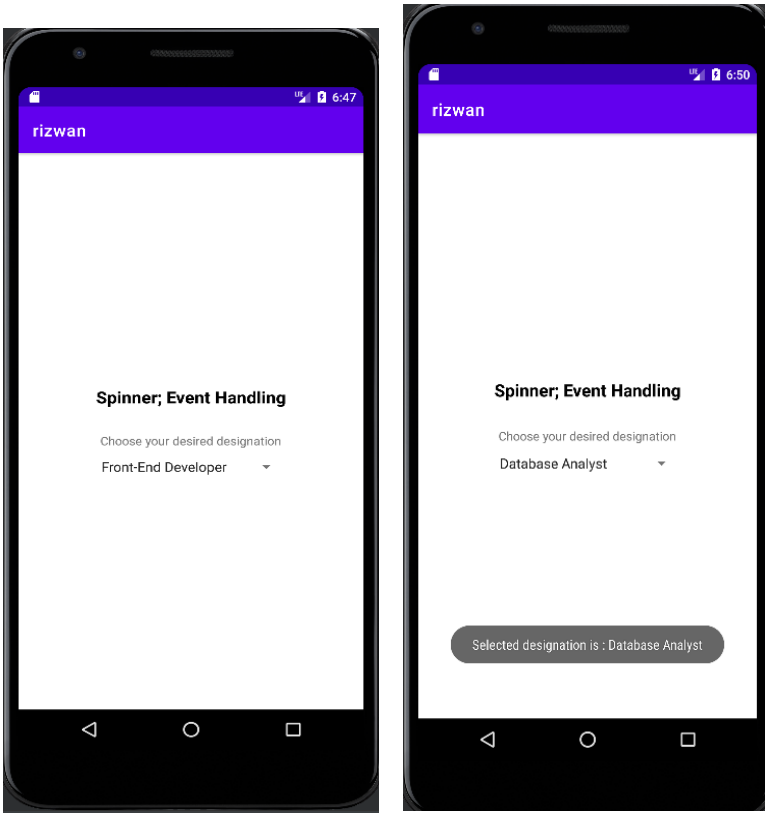
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:orientation="vertical"
   tools:context=".MainActivity">
   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="cars"
      android:textColor="@color/black"
      android:textSize="30dp"
      app:layout_constraintBottom_toBottomOf="parent"
      app:layout_constraintEnd_toEndOf="parent"
      app:layout_constraintStart_toStartOf="parent"
      app:layout_constraintTop_toTopOf="parent" />
   <Spinner
      android:id="@+id/spinner"
      android:layout_width="300dp"
      android:layout_height="70dp" />
</LinearLayout>
```

## MainActivity.java

```
package com.example.rizwan;
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[] cars = { "city", "tiago", "civic", "nano", "mustang"};
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      Spinner spin = (Spinner) findViewById(R.id.spinner);
      spin.setOnItemSelectedListener(this);
      ArrayAdapter aa = new ArrayAdapter(this,android.R.layout.simple_spinner_item,cars);
      aa.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
      spin.setAdapter(aa); }
   public void onItemSelected(AdapterView<?> arg0, View arg1, int position, long id) {
      Toast.makeText(getApplicationContext(),cars[position] , Toast.LENGTH_LONG).show();
   }    @Override
```

## Output Screenshot




## Result

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

## Experiment No.: 16

## Aim

Create database using SQLite and perform INSERT and SELECT

## CO5

Develop mobile applications using SQLite.

## Procedure

## Activity_main.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"
 android:layout_width="match_parent" android:layout_height="match_parent"
android:orientation="vertical" tools:context=".Ques15Activity">
<TextView android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Insert Table"
 android:layout_gravity="center"
android:layout_marginTop="50dp"
android:textSize="25sp"
 android:textStyle="bold"
android:textColor="@color/black"/>
<EditText android:id="@+id/rollno"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:hint="Enter your roll no"
 android:layout_marginHorizontal="20dp"
 android:layout_marginTop="30dp"/>
<EditText android:id="@+id/name"
 android:layout_width="match_parent"
 android:layout_height="wrap_content"
android:hint="Enter your name"
android:layout_marginHorizontal="20dp"
android:layout_marginTop="10dp"/>
<EditText android:id="@+id/email"
android:layout_width="match_parent"
android:layout_height="wrap_content"
 android:hint="Enter your email id"
 android:layout_marginHorizontal="20dp"
android:layout_marginTop="10dp"/>
<Button
```

```
android:id="@+id/insert_btn"
 android:layout_width="wrap_content"
android:layout_height="wrap_content"
 android:text="Insert" android:layout_marginTop="30dp"
 android:layout_gravity="center"/>
<Button
android:id="@+id/select_btn"
android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:text="View"
android:layout_marginTop="30dp"
android:layout_gravity="center"/>
</LinearLayout>
```

**MainActivity.java**

```
package com.example.application;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.database.Cursor; import android.os.Bundle;
import android.view.View; import android.widget.Button;
 import android.widget.EditText;
 import android.widget.Toast;
public class Ques16Activity extends AppCompatActivity {
EditText rollno, name, email; Button insert_btn, select_btn; DBHelper db;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
 setContentView(R.layout.activity_ques16);
rollno= findViewById(R.id.rollno);
 name= findViewById(R.id.name);
 email= findViewById(R.id.email);
insert_btn= findViewById(R.id.insert_btn);
 select_btn= findViewById(R.id.select_btn);
 db= new DBHelper(getApplicationContext());
insert_btn.setOnClickListener(new View.OnClickListener() {
 @Override
public void onClick(View view) {
int rollno_num= Integer.parseInt(rollno.getText().toString());
String name_txt= name.getText().toString();
String email_txt= email.getText().toString();
boolean insert_result= db.insertToDB(rollno_num, name_txt, email_txt);
 if(insert_result){
```

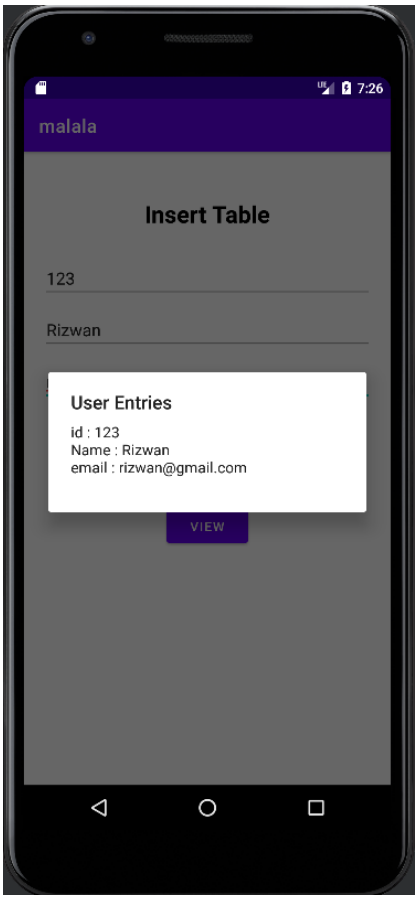
```
Toast.makeText(getApplicationContext(), "Inserted successfully.",
Toast.LENGTH_LONG).show();
} else{
Toast.makeText(getApplicationContext(), "Insertion failed !!", Toast.LENGTH_LONG).show();
}}});
select_btn.setOnClickListener(new View.OnClickListener() {
 @Override
public void onClick(View view) {
Cursor res = db.selectFromDB(); if (res.getCount() == 0) {
Toast.makeText(getApplicationContext(), "No entry Exist", Toast.LENGTH_LONG).show();}
 else {
StringBuffer buffer = new StringBuffer(); while (res.moveToNext()) {
buffer.append("id : " + res.getString(0) + "\n");
 buffer.append("Name : " + res.getString(1) + "\n");
 buffer.append("email : " + res.getString(2) + "\n");
}
AlertDialog.Builder builder = new AlertDialog.Builder(Ques16Activity.this);
builder.setCancelable(true);
 builder.setTitle("User Entries"); builder.setMessage(buffer.toString());
 builder.show();
}}});}}
```

**DBhelper.java**

```
package com.example.application;
import android.content.ContentValues;
import android.content.Context;
 import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
 import android.database.sqlite.SQLiteOpenHelper;
import androidx.annotation.Nullable;
public class DBHelper extends SQLiteOpenHelper {
public DBHelper(@Nullable Context context) {
 super(context, "MyDB", null, 1); } @Override
public void onCreate(SQLiteDatabase sqLiteDatabase) {
sqLiteDatabase.execSQL("CREATE TABLE userdetails (rollno INTEGER PRIMARY KEY,
name TEXT, email TEXT)");}
public void onUpgrade(SQLiteDatabase sqLiteDatabase, int i, int i1) {
sqLiteDatabase.execSQL("DROP TABLE IF EXISTS userdetails");}
public boolean insertToDB(int rollno, String name, String email){
SQLiteDatabase db= this.getWritableDatabase();
 ContentValues values= new ContentValues();
 values.put("rollno",rollno);
values.put("name",name);
 values.put("email",email);
```

```
long result= db.insert("userdetails",null,values);
 if(result>=0){
return true;}
else {
return false;
}}
public Cursor selectFromDB() {
SQLiteDatabase DB = this.getWritableDatabase();
Cursor cursor = DB.rawQuery("Select * from userdetails", null); return cursor;
}}
```

## Output Screenshot




## Result

The program was executed and the result was successfully obtained. Thus CO5 was obtained.

## Experiment No.: 17

## Aim

Perform UPDATE and DELETE on SQLite database

## CO5

Develop mobile applications using SQLite.

## Procedure

## Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools=http://schemas.android.com/tools”
 android:layout_width="match_parent"
 android:layout_height="match_parent"
android:orientation="vertical"
tools:context=".Ques15Activity">
<TextView android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Insert Table"
android:layout_gravity="center"
 android:layout_marginTop="50dp"
 android:textSize="25sp"
 android:textStyle="bold" android:textColor="@color/black"/>
<EditText android:id="@+id/rollno"
android:layout_width="match_parent"
android:layout_height="wrap_content"
 android:hint="Enter your roll no"
 android:layout_marginHorizontal="20dp"
 android:layout_marginTop="30dp"/>
<EditText android:id="@+id/name"
android:layout_width="match_parent"
android:layout_height="wrap_content"
 android:hint="Enter your name"
android:layout_marginHorizontal="20dp"
 android:layout_marginTop="10dp"/>
<EditText android:id="@+id/email"
android:layout_width="match_parent"
 android:layout_height="wrap_content"
 android:hint="Enter your email id"
 android:layout_marginHorizontal="20dp"
 android:layout_marginTop="10dp"/>
```

```
<Button
android:id="@+id/update_btn"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:text="Update Record"
 android:layout_marginTop="30dp"
android:layout_gravity="center"/>
<Button
android:id="@+id/delete_btn"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:text="Delete Record"
 android:layout_marginTop="30dp"
 android:layout_gravity="center"/>
<Button
android:id="@+id/select_btn"
android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:text="View Record"
android:layout_marginTop="30dp"
 android:layout_gravity="center"/>
</LinearLayout>
```

**MainActivity.java**

```
package com.example.application;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.database.Cursor;
import android.os.Bundle;
 import android.view.View;
 import android.widget.Button;
 import android.widget.EditText;
import android.widget.Toast;
public class Ques17Activity extends AppCompatActivity {
EditText rollno, name, email;
Button update_btn, delete_btn, select_btn; DBHelper db;
@Override
protected void onCreate(Bundle savedInstanceState) {
 super.onCreate(savedInstanceState);
setContentView(R.layout.activity_ques17);
rollno= findViewById(R.id.rollno);
name= findViewById(R.id.name);
 email= findViewById(R.id.email);
```

```
update_btn= findViewById(R.id.update_btn);
 delete_btn= findViewById(R.id.delete_btn);
 select_btn= findViewById(R.id.select_btn);
 db= new DBHelper(getApplicationContext());
update_btn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View view) {
int rollno_num= Integer.parseInt(rollno.getText().toString());
 String name_txt= name.getText().toString();
String email_txt= email.getText().toString();
DBHelper db= new DBHelper(getApplicationContext());
boolean update_result= db.updateToDB(rollno_num, name_txt, email_txt);
 if(update_result){
Toast.makeText(getApplicationContext(), "Updated successfully.",
Toast.LENGTH_LONG).show();
}
 else{
Toast.makeText(getApplicationContext(), "Updation failed !!", Toast.LENGTH_LONG).show();
}}});
delete_btn.setOnClickListener(new View.OnClickListener() {
 @Override
public void onClick(View view) {
int rollno_num= Integer.parseInt(rollno.getText().toString());
DBHelper db= new DBHelper(getApplicationContext());
boolean update_result= db.deleteFromDB(rollno_num);
if(update_result){
Toast.makeText(getApplicationContext(), "Deleted successfully.",
Toast.LENGTH_LONG).show();
} else{
Toast.makeText(getApplicationContext(), "Deletion failed !!", Toast.LENGTH_LONG).show();
}} });
select_btn.setOnClickListener(new View.OnClickListener() {
 @Override
public void onClick(View view) {
Cursor res = db.selectFromDB();
 if (res.getCount() == 0) {
Toast.makeText(getApplicationContext(), "No entry Exist", Toast.LENGTH_LONG).show();
} else {
StringBuffer buffer = new StringBuffer();
 while (res.moveToNext()) {
buffer.append("id : " + res.getString(0) + "\n"); buffer.append("Name : " + res.getString(1) +
"\n"); buffer.append("email : " + res.getString(2) + "\n");
 } });}
```

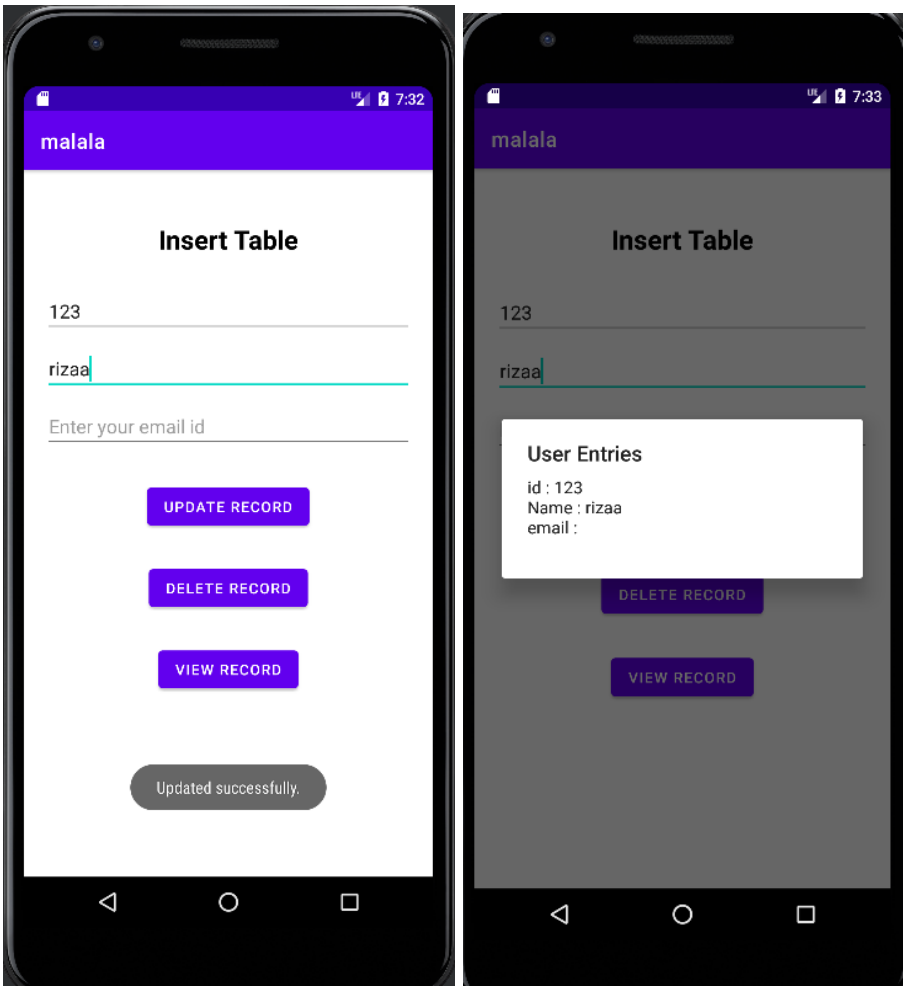
```
AlertDialog.Builder builder = new AlertDialog.Builder(Ques17Activity.this);
builder.setCancelable(true);
builder.setTitle("User Entries");
 builder.setMessage(buffer.toString());
 builder.show();
}} });
 } }
}
```

**DBhelper.java**

```
package com.example.application;
import android.content.ContentValues;
import android.content.Context;
 import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
 import android.database.sqlite.SQLiteOpenHelper;
import androidx.annotation.Nullable;
public class DBHelper extends SQLiteOpenHelper {
public DBHelper(@Nullable Context context) {
super(context, "MyDB", null, 1); }
 @Override
public void onCreate(SQLiteDatabase sqLiteDatabase) {
sqLiteDatabase.execSQL("CREATE TABLE userdetails (rollno INTEGER PRIMARY KEY,
name TEXT, email TEXT)");
} @Override
public void onUpgrade(SQLiteDatabase sqLiteDatabase, int i, int i1) {
sqLiteDatabase.execSQL("DROP TABLE IF EXISTS userdetails");
}
public boolean insertToDB(int rollno, String name, String email){
 SQLiteDatabase db= this.getWritableDatabase();
ContentValues values= new ContentValues();
values.put("rollno",rollno);
values.put("name",name);
 values.put("email",email);
long result= db.insert("userdetails",null,values); if(result>=0){
return true;
} else {
return false;
}}
public Cursor selectFromDB() {
SQLiteDatabase DB = this.getWritableDatabase();
Cursor cursor = DB.rawQuery("Select * from userdetails", null); return cursor;
}
public boolean updateToDB(int rollno, String name, String email){
```

```
 SQLiteDatabase db= this.getWritableDatabase();
ContentValues values= new ContentValues();
 values.put("name",name);
 values.put("email",email);
Cursor check_user= db.rawQuery("SELECT * from userdetails WHERE rollno=?",new
String[]{String.valueOf(rollno)});
if(check_user.getCount() > 0){
long update_user_query= db.update("userdetails",values,"rollno=?",new
String[]{String.valueOf(rollno)});
if(update_user_query >= 0){ return true;
} else{
return false;
}} else{
return false;
}}
public boolean deleteFromDB(int rollno){ SQLiteDatabase db= this.getWritableDatabase();
Cursor check_user= db.rawQuery("SELECT * FROM userdetails WHERE rollno=?",new
String[]{String.valueOf(rollno)});
if(check_user.getCount() > 0){
long delete_user_query= db.delete("userdetails","rollno=?", new
String[]{String.valueOf(rollno)}); if(delete_user_query >= 0){
return true;
} else{
return false;
}
}
else{
return false;
}
}
}
```

## Output Screenshot




## Result

The program was executed and the result was successfully obtained. Thus CO5 was obtained.