

# **MASTER OF COMPUTER APPLICATIONS**

## **PRACTICAL RECORD WORK ON 20MCA243 MOBILE APPLICATION DEVELOPMENT LAB**

**Submitted  
By**

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**DEPARTMENT OF COMPUTER APPLICATIONS  
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**DEPARTMENT OF COMPUTER APPLICATIONS  
COLLEGE OF ENGINEERING VADAKARA  
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**CERTIFICATE**

Certified that this is a bonafide record of the practical work on the course 20MCA243 MOBILE APPLICATION DEVELOPMENT LAB done by Mr/Mrs..... (Reg No.....) First semester MCA student of Department of Computer Applications at College of Engineering Vadakara in the practical fulfillment for the award of the degree of Master of Computer Applications (MCA) of APJ Abdul Kalam Technological University (KTU)

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**DATE:**

**EXAMINERS:**

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## CO-1

### Experiment-1

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

#### CODE

##### 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">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical">
        <ImageView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:src="@mipmap/ic_launcher_round">

        </ImageView>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="50dp"
            android:text="Enter Email"
            android:textColor="@color/black"
            android:textStyle="bold"
            android:textSize="20dp"
            android:drawableLeft="@drawable/ic_baseline_email_24"
            android:drawableStart="@drawable/ic_baseline_email_24">

        </TextView>
        <EditText
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Enter valid email"
            android:id="@+id/etmail">

        </EditText>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="50dp"
            android:text="Enter Password"
            android:textColor="@color/black">
```

```

        android:textStyle="bold"
        android:textSize="20dp"
        android:drawableLeft="@drawable/ic_baseline_lock_24"
        android:drawableStart="@drawable/ic_baseline_lock_24">

</TextView>
<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter valid pasword"
    android:id="@+id/etpass">

</EditText>

<Button
    android:id="@+id/btlog"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_marginTop="50dp"
    android:text="LOGIN">

</Button>

</LinearLayout>

</LinearLayout>

```

### **Activity\_Main.java**

```

package com.example.loginformwithtoast;

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;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    private EditText email,password;
    private Button login;
    String mail,pwd;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        email=(EditText)findViewById(R.id.etmail);
        password=(EditText)findViewById(R.id.etpass);
        login=(Button)findViewById(R.id.btlog);
    }
}

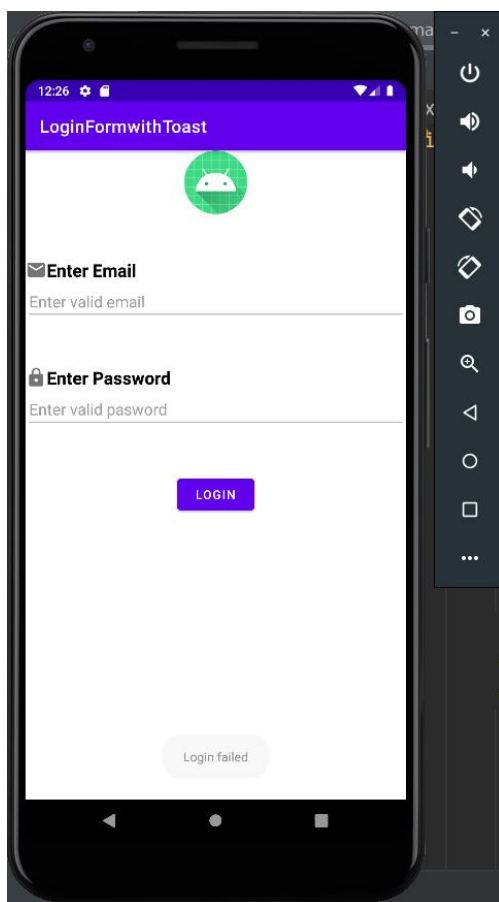
```

```

login.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        mail=email.getText().toString();
        pwd=password.getText().toString();
        if (mail.equals("arathiparambil@gmail.com") && pwd.equals("arathi@123")){
            Toast.makeText(getApplicationContext(), "Login Success",
Toast.LENGTH_SHORT).show();
            startActivity(new Intent(MainActivity.this,MainActivity2.class));
        }
        else {
            Toast.makeText(MainActivity.this, "Login failed", Toast.LENGTH_SHORT).show();
        }
    }
});
}
}

```

## OUTPUT



## Experiment-2

Write a program that demonstrates Activity Lifecycle.

### CODE

#### **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="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>
```

#### **Activity\_Main.java**

```
package com.example.lifecycle;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.util.Log;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.i("state", "onCreate");
    }

    @Override
    protected void onStart() {
        super.onStart();
        Log.i("state", "onStart");
    }

    @Override
    protected void onResume() {
        super.onResume();
        Log.i("state", "onResume");
    }
}
```

```

    }

    @Override
    protected void onPause() {
        super.onPause();
        Log.i("state","onPause");
    }

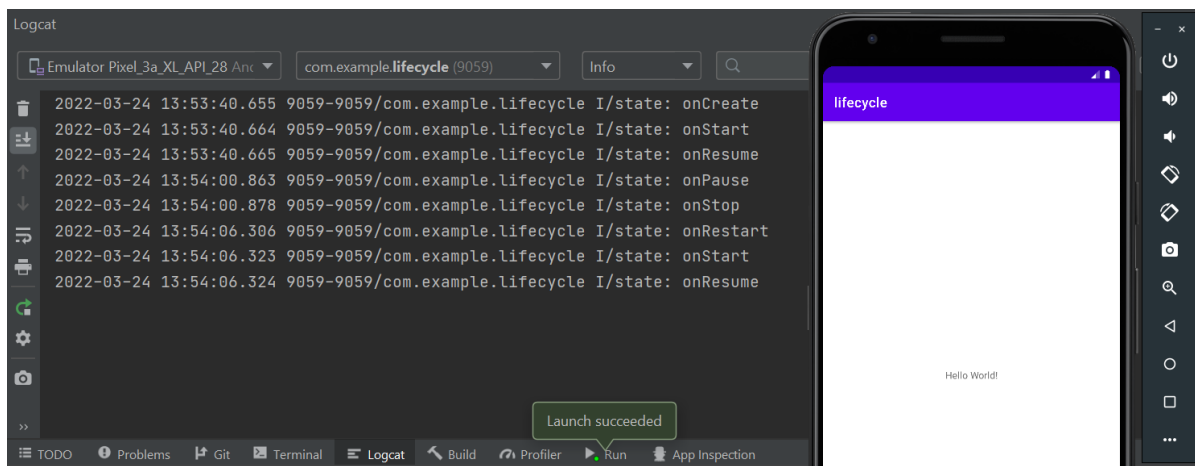
    @Override
    protected void onStop() {
        super.onStop();
        Log.i("state","onStop");
    }

    @Override
    protected void onRestart() {
        super.onRestart();
        Log.i("state","onRestart");
    }

    @Override
    protected void onDestroy() {
        super.onDestroy();
        Log.i("state","onDestroy");
    }
}

```

## OUTPUT





## Experiment-3

Implementing basic arithmetic operations of a simple calculator

### CODE

#### 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">

    <Button
        android:id="@+id/btadd"
        android:layout_width="65dp"
        android:layout_height="45dp"
        android:layout_marginStart="36dp"
        android:layout_marginEnd="281dp"
        android:layout_marginBottom="360dp"
        android:onClick="add"
        android:text="ADD"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.034"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/btsub"
        android:layout_width="65dp"
        android:layout_height="45dp"
        android:layout_marginStart="4dp"
        android:layout_marginEnd="182dp"
        android:layout_marginBottom="360dp"
        android:onClick="sub"
        android:text="SUB"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.275"
        app:layout_constraintStart_toEndOf="@+id/btadd" />

    <Button
        android:id="@+id/btdiv"
        android:layout_width="65dp"
        android:layout_height="45dp"
        android:layout_marginStart="5dp"
        android:layout_marginEnd="82dp"
        android:layout_marginBottom="360dp"
        android:onClick="div"
        android:text="DIV"
```

```

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.349"
app:layout_constraintStart_toEndOf="@+id/btsub" />

<Button
    android:id="@+id/btmul"
    android:layout_width="65dp"
    android:layout_height="45dp"
    android:layout_marginStart="5dp"
    android:layout_marginEnd="8dp"
    android:layout_marginBottom="360dp"
    android:onClick="mul"
    android:text="MUL"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.361"
    app:layout_constraintStart_toEndOf="@+id/btdiv" />

<EditText
    android:id="@+id/etnum1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="105dp"
    android:layout_marginTop="57dp"
    android:layout_marginEnd="96dp"
    android:layout_marginBottom="34dp"
    android:ems="10"
    android:hint="Enter num1"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toTopOf="@+id/etnum2"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<EditText
    android:id="@+id/etnum2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="107dp"
    android:layout_marginTop="34dp"
    android:layout_marginEnd="94dp"
    android:layout_marginBottom="145dp"
    android:ems="10"
    android:hint="Enter num2"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toTopOf="@+id/btsub"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/etnum1" />

<TextView
    android:id="@+id/etans"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="177dp"

```

```

        android:layout_marginTop="119dp"
        android:layout_marginEnd="176dp"
        android:layout_marginBottom="222dp"
        android:text="Result"
        android:textSize="30dp"
        android:textColor="@color/black"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/btsub" />

```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

### Activity\_Main.java

```

package com.example.simplecalculatorapp;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    private EditText etnum1,etnum2;
    private TextView etans;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public void add(View V){
        etnum1=(EditText) findViewById(R.id.etnum1);
        etnum2=(EditText) findViewById(R.id.etnum2);
        etans=(TextView) findViewById(R.id.etans);

        int n1=Integer.parseInt(etnum1.getText().toString());
        int n2=Integer.parseInt(etnum2.getText().toString());

        int result=n1+n2;
        etans.setText("Result:"+result);
    }
    public void sub(View V){
        etnum1=(EditText) findViewById(R.id.etnum1);
        etnum2=(EditText) findViewById(R.id.etnum2);
        etans=(TextView) findViewById(R.id.etans);

        int n1=Integer.parseInt(etnum1.getText().toString());
        int n2=Integer.parseInt(etnum2.getText().toString());

        int result=n1-n2;
        etans.setText("Result:"+result);
    }
}

```

```

public void div(View V){
    etnum1=(EditText) findViewById(R.id.etnum1);
    etnum2=(EditText) findViewById(R.id.etnum2);
    etans=(TextView) findViewById(R.id.etans);

    int n1=Integer.parseInt(etnum1.getText().toString());
    int n2=Integer.parseInt(etnum2.getText().toString());

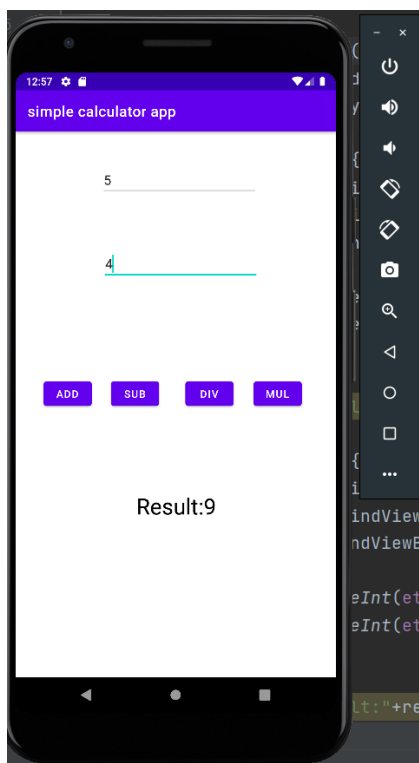
    int result=n1/n2;
    etans.setText("Result:"+result);
}
public void mul(View V){
    etnum1=(EditText) findViewById(R.id.etnum1);
    etnum2=(EditText) findViewById(R.id.etnum2);
    etans=(TextView) findViewById(R.id.etans);

    int n1=Integer.parseInt(etnum1.getText().toString());
    int n2=Integer.parseInt(etnum2.getText().toString());

    int result=n1*n2;
    etans.setText("Result:"+result);
}
}

```

## OUTPUT



## CO-2

### Experiment-2

Design a simple Calculator using GridLayout and Cascaded LinearLayout

#### CODE

##### 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_gravity="center_vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/num1"
        android:layout_width="358dp"
        android:layout_height="21dp"
        android:layout_gravity="center"
        android:layout_marginBottom="10dp"
        android:layout_weight="7"
        android:ems="10"
        android:textColor="@color/white"
        android:hint="Enter First number" />

    <EditText
        android:id="@+id/num2"
        android:layout_width="358dp"
        android:layout_height="28dp"
        android:layout_gravity="center"
        android:layout_marginBottom="10dp"
        android:layout_weight="7"
        android:textColor="@color/white"
        android:ems="10"
        android:hint="Enter second number"
        android:minHeight="48dp" />

    <TextView
        android:id="@+id/result"
        android:layout_width="358dp"
        android:layout_height="21dp"
        android:layout_gravity="center"
        android:textColor="@color/white"
```

```

        android:layout_marginBottom="10dp"
        android:layout_weight="7"
        android:height="20dp"
        android:ems="10"
        android:hint="result"
        android:minHeight="32dp" />

<androidx.gridlayout.widget.GridLayout
    android:layout_width="match_parent"
    android:layout_height="200dp"
    android:layout_weight="1">

    <Button
        android:id="@+id/add"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="8dp"
        android:text="+" />

    <Button
        android:id="@+id/sub"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="8dp"
        android:text="-" />

    <Button
        android:id="@+id/divide"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="8dp"
        android:text="/" />

    <Button
        android:id="@+id/mult"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="8dp"
        android:text="*" />
</androidx.gridlayout.widget.GridLayout>

</LinearLayout>

```

### **Activity\_Main.java**

```

package com.example.calculatorusinggridlayout;

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;

public class MainActivity extends AppCompatActivity {

    EditText num1,num2;
    TextView result;
    Button add,sub, multi,divide;
    private Double n1,n2,r;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        num1=(EditText) findViewById(R.id.num1);
        num2=(EditText) findViewById(R.id.num2);
        result=(TextView) findViewById(R.id.result);
        add=(Button) findViewById(R.id.add);
        sub=(Button) findViewById(R.id.sub);
        multi =(Button) findViewById(R.id.mult);
        divide=(Button) findViewById(R.id.divide);

        add.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                n1=Double.parseDouble(num1.getText().toString());
                n2=Double.parseDouble(num2.getText().toString());
                r=n1+n2;
                result.setText(r.toString());
                num1.setText("");
                num2.setText("");
            }
        });

        divide.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                n1=Double.parseDouble(num1.getText().toString());
                n2=Double.parseDouble(num2.getText().toString());
                r=n1/n2;
                result.setText(r.toString());
                num1.setText("");
                num2.setText("");
            }
        });

        sub.setOnClickListener(new View.OnClickListener() {
            @Override

```

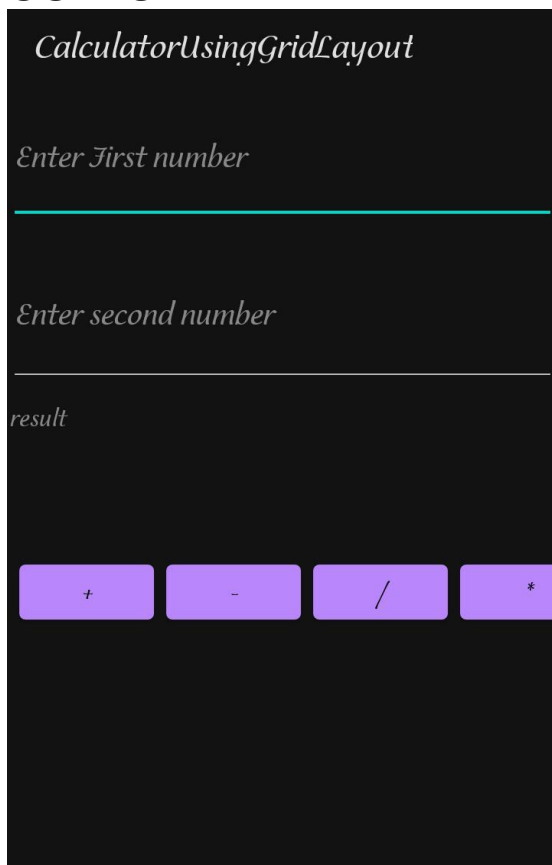
```

        public void onClick(View view) {
            n1=Double.parseDouble(num1.getText().toString());
            n2=Double.parseDouble(num2.getText().toString());
            r=n1-n2;
            result.setText(r.toString());
            num1.setText("");
            num2.setText("");
        }
    });

    multi.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            n1=Double.parseDouble(num1.getText().toString());
            n2=Double.parseDouble(num2.getText().toString());
            r=n1*n2;
            result.setText(r.toString());
            num1.setText("");
            num2.setText("");
        }
    });
}
}

```

## OUTPUT





## Experiment-4

Develop an application that toggles image using FrameLayout

### CODE

#### **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:layout_gravity="center"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <ToggleButton
        android:layout_width="wrap_content"
        android:onClick="onDefaultToggleClick"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"/>

    <ToggleButton
        android:layout_width="50dp"
        android:textOn=""
        android:textOff=""
        android:background="@drawable/toggle_selector"
        android:onClick="OnCustomToggleClick"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"/>

</LinearLayout>
```

#### **Activity\_Main.java**

```
package com.example.toggle;

import androidx.appcompat.app.AppCompatActivity;

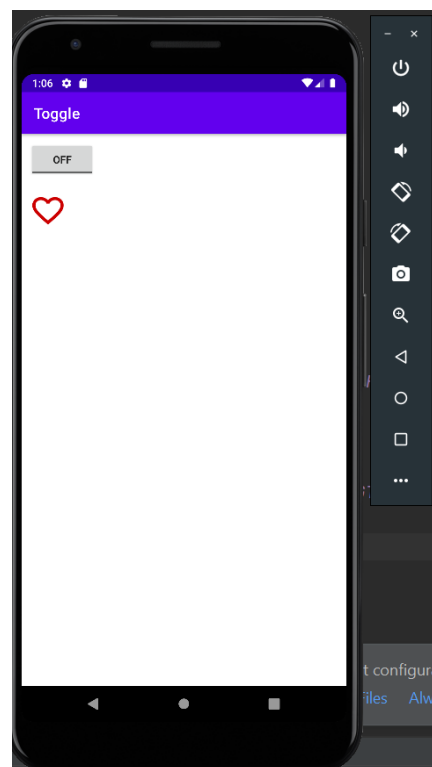
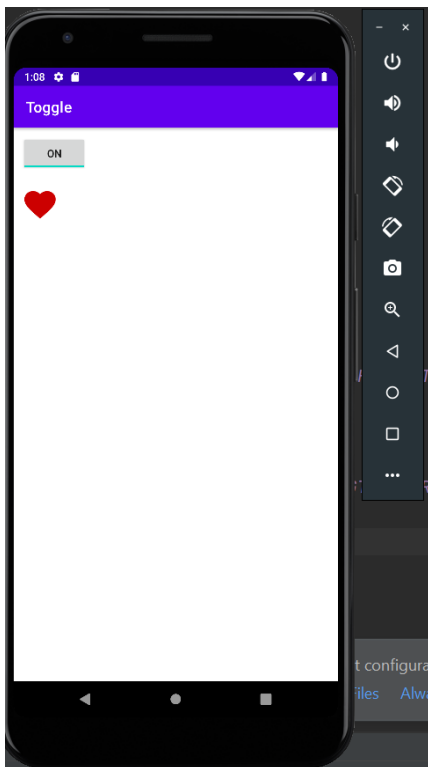
import android.os.Bundle;
import android.view.View;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

```
public void OnCustomToggleClick(View view) {  
    Toast.makeText(this, "CustomToggleClick", Toast.LENGTH_SHORT).show();  
}  
  
public void onDefaultToggleClick(View view) {  
    Toast.makeText(this, "DefaultToggleClick", Toast.LENGTH_SHORT).show();  
}  
}
```

## OUTPUT



## CO-3

### Experiment-1

Implement Adapters and perform exception handling

#### CODE

##### **Activity\_Main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <ListView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/lv">
    </ListView>

</RelativeLayout>
```

##### **Item\_view.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/tvitem"
        android:textSize="30dp"
        android:textColor="@color/teal_700">

    </TextView>

</LinearLayout>
```

##### **Activity\_Main.java**

```
package com.example.arrayadapter;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
```

```

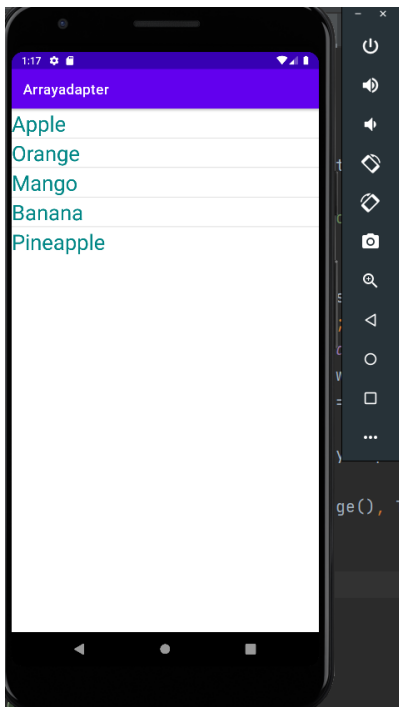
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    ListView simplelistview;
    String[] list ={"Apple","Orange","Mango","Banana","Pineapple"};

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        simplelistview = (ListView)findViewById(R.id.lv);
        ArrayAdapter<String> arrayAdapter = new ArrayAdapter<String>(this, R.layout.item_view,
R.id.tvitem, list);
        try{
            simplelistview.setAdapter(arrayAdapter);
        }catch (Exception e){
            Toast.makeText(this,e.getMessage(), Toast.LENGTH_LONG).show();
        }
    }
}

```

## OUTPUT



## Experiment-2

Implement Intent to navigate between multiple activities

### CODE

#### Activity\_Main.xml

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

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="First page!"
    android:textColor="@color/teal_700"
    android:textSize="50dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.185" />

<Button
    android:id="@+id/bt"
    android:layout_width="200dp"
    android:layout_height="50dp"
    android:layout_marginStart="119dp"
    android:layout_marginTop="233dp"
    android:layout_marginEnd="92dp"
    android:layout_marginBottom="258dp"
    android:text="Go to second page"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView" />

</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">

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="96dp"
    android:layout_marginTop="203dp"
    android:layout_marginEnd="97dp"
    android:layout_marginBottom="279dp"
    android:text="Go back to first page"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView2" />

<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="90dp"
    android:layout_marginTop="149dp"
    android:layout_marginEnd="90dp"
    android:layout_marginBottom="202dp"
    android:text="Second page"
    android:textSize="40dp"
    app:layout_constraintBottom_toTopOf="@+id/button"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

### Activity\_Main.java

```

package com.example.intenttonavigate;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button bt=(Button)findViewById(R.id.bt);
        Intent intent=new Intent(this,MainActivity2.class);
        bt.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(intent);
            }
        });
    }
}

```

```

    }
  });
}
}

```

## Activity\_Main2.java

```

package com.example.intenttonavigate;

import androidx.appcompat.app.AppCompatActivity;

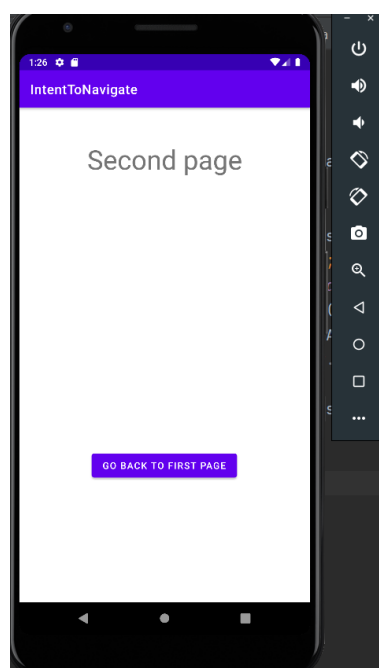
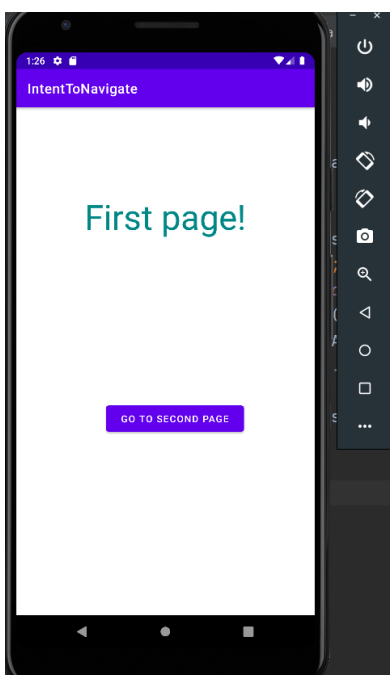
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

public class MainActivity2 extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        Button button=(Button)findViewById(R.id.button);
        Intent intent=new Intent(this,MainActivity.class);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(intent);
            }
        });
    }
}

```

## OUTPUT



## Experiment-5

Develop an application that uses ArrayAdapter with ListView.

### CODE

#### **Activity\_Main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <ListView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/lv">
    </ListView>

</RelativeLayout>
```

#### **Item\_view.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/tvitem"
        android:textSize="30dp"
        android:textColor="@color/teal_700">

    </TextView>

</LinearLayout>
```

#### **Activity\_Main.java**

```
package com.example.arrayadapter;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;

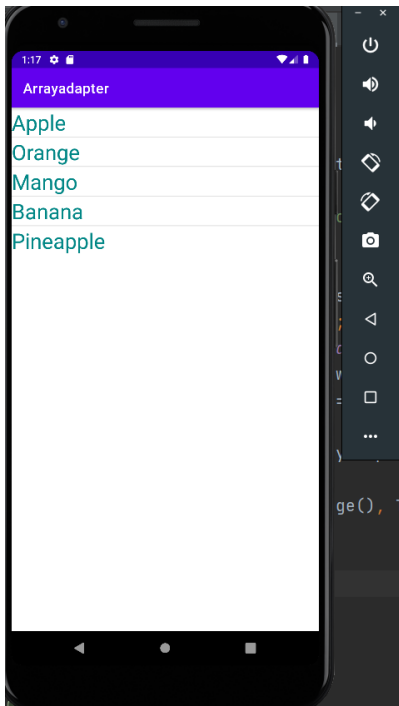
public class MainActivity extends AppCompatActivity {
    ListView simplelistview;
```



```
String[] list = {"Apple", "Orange", "Mango", "Banana", "Pineapple"};

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    simplelistview = (ListView)findViewById(R.id.lv);
    ArrayAdapter<String> arrayAdapter = new ArrayAdapter<String>(this, R.layout.item_view,
R.id.tvitem, list);
}
}
```

## OUTPUT



## CO-4

### Experiment-1

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

#### CODE

##### **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">

    <GridView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/gvitem"
        android:horizontalSpacing="6dp"
        android:verticalSpacing="6dp"
        android:numColumns="2"/>

</androidx.constraintlayout.widget.ConstraintLayout>
```

##### **Card\_item.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"
android:layout_width="match_parent"
android:layout_height="120dp"
android:layout_gravity="center"
android:layout_margin="5dp"
android:elevation="5dp">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        tools:ignore="MissingConstraints">
        <ImageView
            android:layout_width="100dp"
            android:layout_height="100dp"
            android:id="@+id/ivimage"
            android:layout_gravity="center"
            android:src="@mipmap/ic_launcher"/>
        <TextView
            android:layout_width="match_parent"
```

```

        android:layout_height="wrap_content"
        android:id="@+id/tvtext"
        android:text="@string/app_name"
        android:textAlignment="center"/>
    </LinearLayout>

</androidx.constraintlayout.widget.ConstraintLayout>

```

### **ImageModel.java**

```

package com.example.gridview;

public class ImageModel {
    private String img_name;
    private int imgid;
    public ImageModel(String img_name,int imgid){
        this.img_name=img_name;
        this.imgid=imgid;
    }
    public String getImg_name(){
        return img_name;
    }
    public void setImg_name(String img_name){
        this.img_name=img_name;
    }
    public int getImgid(){
        return imgid;
    }
    public void setImgid(int imgid){
        this.imgid=imgid;
    }
}

```

### **ImGVAdapter.java**

```

package com.example.gridview;

import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ArrayAdapter;
import android.widget.ImageView;
import android.widget.TextView;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;

import java.util.ArrayList;

public class ImGVAdapter extends ArrayAdapter<ImageModel> {

    public ImGVAdapter(@NonNull Context context, ArrayList<ImageModel>
    imageModelArrayList) {

```

```

        super(context, 0,imageModelArrayList);
    }
    @NonNull
    @Override
    public View getView(int position, @Nullable View convertView, @NonNull ViewGroup
parent){

        View listitemView=convertView;
        if (listitemView==null){
            listitemView= LayoutInflater.from(getContext()).inflate(R.layout.card_item,parent,false);
        }
        ImageModel imageModel=getItem(position);
        TextView imTV=listitemView.findViewById(R.id.tvtext);
        ImageView imIV=listitemView.findViewById(R.id.ivimage);
        imTV.setText(imageModel.getImg_name());
        imIV.setImageResource(imageModel.getImgid());
        return listitemView;
    }
}

```

### **Activity\_Main.java**

```

package com.example.gridview;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.GridView;

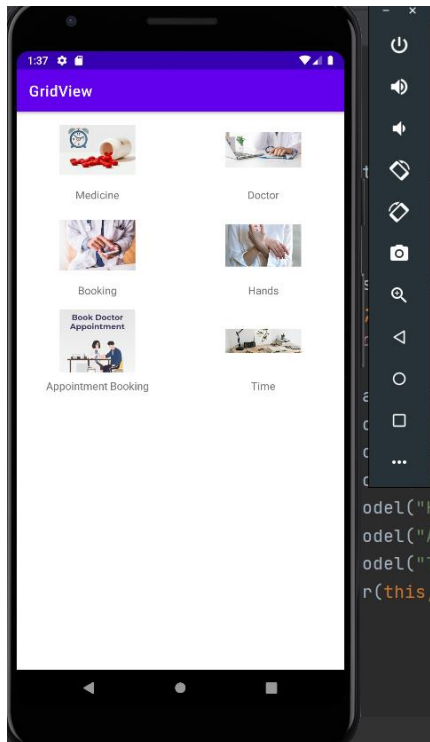
import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {
    GridView imageGV;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        imageGV=findViewById(R.id.gvitem);
        ArrayList<ImageModel>imageModelArrayList=new ArrayList<ImageModel>();
        imageModelArrayList.add(new ImageModel("Medicine",R.drawable.image));
        imageModelArrayList.add(new ImageModel("Doctor",R.drawable.image2));
        imageModelArrayList.add(new ImageModel("Booking",R.drawable.image3));
        imageModelArrayList.add(new ImageModel("Hands",R.drawable.main));
        imageModelArrayList.add(new ImageModel("Appointment Booking",R.drawable.med2));
        imageModelArrayList.add(new ImageModel("Time",R.drawable.top));
        ImGVAdapter adapter=new ImGVAdapter(this,imageModelArrayList);
        imageGV.setAdapter(adapter);
    }
}

```

## OUTPUT



## Experiment-2

Develop an application that implements Spinner component and perform event handling

### CODE

#### **Activity\_Main.java**

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

    <Spinner
        android:id="@+id/spinner"
        android:scrollbarSize="100dp"
        android:layout_width="200dp"
        android:layout_height="50dp"
        android:layout_marginStart="1dp"
        android:layout_marginTop="163dp"
        android:layout_marginEnd="1dp"
        android:layout_marginBottom="169dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

#### **Activity\_Main.java**

```
package com.example.spinner;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemClickListener {
    String[] Country={"India","USA","Germany","France","Italy"};

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

```

Spinner sp=(Spinner)findViewById(R.id.spinner);
sp.setOnItemSelectedListener(this);
ArrayAdapter aa=new ArrayAdapter(this, android.R.layout.simple_spinner_item,Country);
aa.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
sp.setAdapter(aa);

}

@Override
public void onItemSelected(AdapterView<?> arg0, View arg1, int position, long id) {
    Toast.makeText(getApplicationContext(),Country[position],
    Toast.LENGTH_LONG).show();
}

@Override
public void onNothingSelected(AdapterView<?> arg0) {

}

}

```

## OUTPUT

