

20MCA243 MOBILE APPLICATION DEVELOPMENT LAB

Lab Report Submitted By

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Reg. No:AJC20MCA-2044

In Partial fulfillment for the Award of the Degree Of

**MASTER OF COMPUTER APPLICATIONS (2 Year)
(MCA)**

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY



**AMAL JYOTHI COLLEGE OF ENGINEERING
KANJIRAPPALLY**

[Affiliated to APJ Abdul Kalam Technological University, Kerala. Approved by AICTE,
Accredited by NAAC with 'A' grade. Koovapally, Kanjirappally, Kottayam, Kerala – 686518]

2021-2022

DEPARTMENT OF COMPUTER APPLICATIONS
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CERTIFICATE

This is to certify that the lab report, “**20MCA243 MOBILE APPLICATION DEVELOPMENT LAB**” is the bonafide work of **JISHA CHACKO(Reg.No:AJC20MCA-2044)** in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications under APJ Abdul Kalam Technological University during the year 2021-22.

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PROGRAM NO: 1

AIM: Program to develop the android mobile application which consist of GUI components for Login Page creation.

XML Code:

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"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:background="@drawable/a4">

    <TextView
        android:id="@+id/l1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:gravity="center"
        android:text="Login"
        android:textColor="#630DFB"
        android:textSize="50dp"
        tools:layout_editor_absoluteX="31dp"
        tools:layout_editor_absoluteY="39dp" />

    <EditText
        android:id="@+id/e1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"

        android:ems="10"
        android:inputType="textPersonName"
        android:minHeight="48dp"
        android:text="User Name" />

    <EditText
        android:id="@+id/e2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPassword"
        android:minHeight="48dp"
        android:text="Password" />

    <Button
```

```

android:id="@+id/b1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_gravity="right"

android:text="Button" />

</LinearLayout>

```

Java Code

```

package com.example.myapplication222;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    private TextView t1;
    private EditText e1;
    private EditText e2;
    private Button b1;

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

        b1=findViewById(R.id.b1);
        e1=findViewById(R.id.e1);
        e2=findViewById(R.id.e2);

    }
}

```

OUTPUT



PROGRAM NO: 2

AIM: Program to display the content of EditText in TextView on button click.

XML 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"
    android:orientation="vertical"
    android:background="#DFF6C4">

    <EditText
        android:layout_width="261dp"
        android:layout_height="78dp"
        android:id="@+id/text1"
        android:hint="Write here!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        android:background="@color/teal_700"
        android:textSize="25dp"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"/>

    <Button
        android:id="@+id/button"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```



```
android:gravity="center"
```

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

```
<TextView
```

```
android:id="@+id/textView2"
```

```
android:layout_width="match_parent"
```

```
android:layout_height="70dp"
```

```
android:layout_gravity="center"
```

```
android:text="Your text is" />
```

Java Code

```
package com.example.display;
```

```
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 { private EditText t1;
```

```
private TextView
```

```
t2; private Button
```

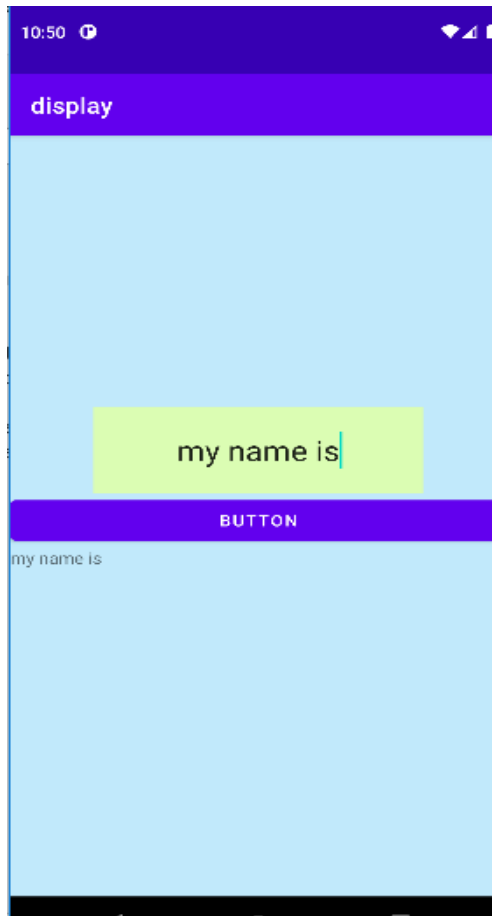
```
b1;

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

setContentView(R.layout.activity_main);
t1=findViewById(R.id.text1);
t2=findViewById(R.id.textView2);
b1=findViewById(R.id.button);
b1.setOnClickListener(new
View.OnClickListener() { @Override
public void onClick(View v) {
String value = t1.getText().toString();
t2.setText(String.valueOf(value));
}
});

}
}
```

OUTPUT



PROGRAM NO: 3

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

XML Code:

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

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

    android:layout_width="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:layout_height="match_parent"
    android:background="@drawable/f5"

    tools:context=".MainActivity">

    <TextView
        android:id="@+id/t1"
        android:layout_width="212dp"
        android:layout_height="61dp"

        android:text="LOGIN" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        android:layout_marginLeft="20dp"
        android:layout_marginRight="20dp">
        <com.google.android.material.textfield.TextInputLayout
            android:id="@+id/edturn"
```

```

    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Username"
    < style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox">
    <com.google.android.material.textfield.TextInputEditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="text"/>
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
    android:id="@+id/edtpswd"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Password"
    style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox">
    <com.google.android.material.textfield.TextInputEditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="text"/>
    </com.google.android.material.textfield.TextInputLayout>
    </LinearLayout>
    <Button
    android:id="@+id/btnlgn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Login"/>

    </LinearLayout>

```

Java Code

```
package com.example.5;

import androidx.appcompat.app.AppCompatActivity;

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

import android.util.Log;

import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
import com.google.android.material.textfield.TextInputLayout;

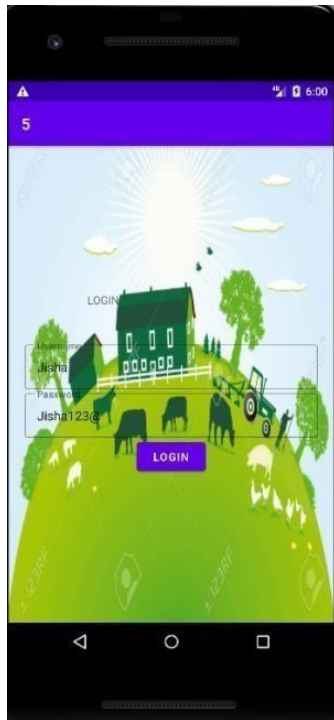
public class MainActivity extends AppCompatActivity {
    TextView t1;
    TextInputLayout e1, e2;
    Button b1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1 = findViewById(R.id.t1);
        e1 = findViewById(R.id.edturn);
        e2 = findViewById(R.id.edtpswd);
        b1 = findViewById(R.id.btnlgn);
```

```

b1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String username = e1.getText().toString().trim();
        String password = e2.getText().toString().trim();
        if (username.equals("")){
            Toast.makeText(MainActivity.this, "Enter your username", Toast.LENGTH_LONG).show();
        }
        else if (password.equals("")){
            Toast.makeText(MainActivity.this, "Enter your Password", Toast.LENGTH_LONG).show();
        }
        else{
            Intent j = new Intent(MainActivity.this, Dashboard.class);
            if (username.equals("admin")){
                j.putExtra("usrn", username);
                startActivity(j);
            } else if (username.equals("patient")){
                j.putExtra("usrn", username);
                startActivity(j);
            } else{
                Toast.makeText(MainActivity.this, "Invalid user", Toast.LENGTH_SHORT).show();
            }
        }
    }
});
}
}
}

```

OUTPUT



PROGRAM NO: 4

AIM: Implementing basic arithmetic operations of a simple calculator.

XML Code:

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".simpleCal"
    android:padding="20dp"
    android:orientation="vertical"
    android:background="@color/bg">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="CALCULATOR"
        android:textSize="25sp"
        android:layout_marginBottom="16dp"
        android:textColor="@android:color/black" />
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:layout_marginBottom="20dp">
    <EditText
        android:id="@+id/first_no"
        android:layout_width="102dp"
        android:layout_height="59dp"
        android:ems="10" android:layout_marginHorizontal="50dp"
        android:hint="Enter no1" />
```

```
<EditText
android:id="@+id/second_no"
android:layout_width="102dp"
android:layout_height="59dp"
android:ems="10"
android:hint="Enter no2" />
</LinearLayout>
<LinearLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:orientation="horizontal"
android:gravity="center"
android:layout_marginBottom="20dp">
<TextView
android:textSize="35sp"
android:id="@+id/answer"
android:layout_width="wrap_content"
android:layout_height="59dp"
android:layout_marginHorizontal="50dp"
android:hint="ans" />
</LinearLayout>
<LinearLayout
android:orientation="vertical"
android:layout_marginLeft="50dp"
android:layout_width="230dp"
android:layout_height="wrap_content"
android:layout_marginBottom="30dp">
<LinearLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:orientation="horizontal">
```

```

<Button
    android:id="@+id/sub"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    Applicationsandroid:text="-"
    android:layout_marginRight="50dp"
    android:textSize="25sp"
    android:layout_marginBottom="16dp" />
<Button
    android:id="@+id/add"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="16dp"
    android:text="+" android:textSize="25sp"
    tools:ignore="OnClick" />
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal">
    <Button
        android:id="@+id/div"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginRight="50dp">

```

Java Code

```

package com.example.My App4;

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 simpleCal extends AppCompatActivity {
    EditText no1, no2;
    Button add, mul, div, sub, equal;
    TextView answer;
    double ans = 0;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_simple_cal);
        no1 = findViewById(R.id.first_no);
        no2 = findViewById(R.id.second_no);
        add = findViewById(R.id.add);
        mul = findViewById(R.id.mul);
        div = findViewById(R.id.div);
        sub = findViewById(R.id.sub);
        equal = findViewById(R.id.equals);
        answer = findViewById(R.id.answer);
        add.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String num1 = no1.getText().toString();
                String num2 = no2.getText().toString();
                if (num1.isEmpty() || num2.isEmpty()) {
                    Toast.makeText(getApplicationContext(), "EnterNumbers",
                        Toast.LENGTH_SHORT).show();
                } else {
                    double a = Double.parseDouble(no1.getText().toString());
                    double b = Double.parseDouble(no2.getText().toString());

```

```

ans = a + b;
}
}
});
sub.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String num1 = no1.getText().toString();
        String num2 = no2.getText().toString();
        if (num1.isEmpty() || num2.isEmpty()) {
            Toast.makeText(getApplicationContext(),"EnterNumbers",
            Toast.LENGTH_SHORT).show();
        } else {
            double a = Double.parseDouble(no1.getText().toString());
            double b = Double.parseDouble(no2.getText().toString());
            ans = a - b;
        }
    }
});
mul.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String num1 = no1.getText().toString();
        String num2 = no2.getText().toString();
        if (num1.isEmpty() || num2.isEmpty()) {
            Toast.makeText(getApplicationContext(),"EnterNumbers",
            Toast.LENGTH_SHORT).show();
        } else {
            double a = Double.parseDouble(no1.getText().toString());
            double b = Double.parseDouble(no2.getText().toString());
            ans = a * b;
        }
    }
});

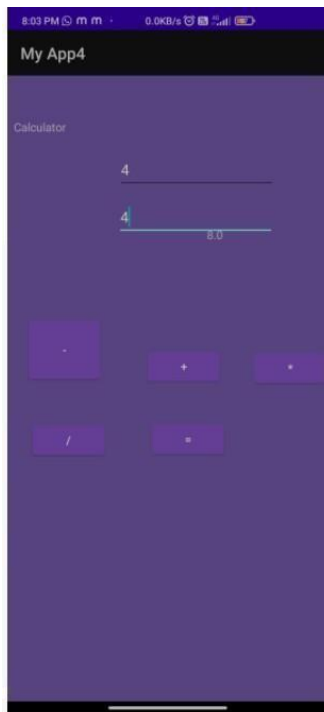
```

```

    }
    });
    div.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String num1 = no1.getText().toString();
            String num2 = no2.getText().toString();
            if (num1.isEmpty() || num2.isEmpty()) {
                Toast.makeText(getApplicationContext(), "EnterNumbers",
                    Toast.LENGTH_SHORT).show();
            } else {
                double a = Double.parseDouble(no1.getText().toString());
                double b = Double.parseDouble(no2.getText().toString());
                if (b != 0)
                    ans = a / b;
                else
                    Toast.makeText(getApplicationContext(), "EnterValidNumbers",
                        Toast.LENGTH_SHORT).show();
            }
        }
    });
    equal.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String ans1 = String.valueOf(ans);
            answer.setText(ans1);
            ans = 0;
        }
    });
}
}

```

OUTPUT



PROGRAM NO: 05

AIM: Implement validations on various UI controls.

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:orientation="vertical"
tools:context=".Ui_validation"
tools:ignore="HardcodedText">
<EditText
android:id="@+id/firstName"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginStart="16dp"
android:layout_marginTop="16dp"
android:layout_marginEnd="16dp"
android:hint="First Name"
android:inputType="text" />
Applications<EditText
android:id="@+id/lastName"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginStart="16dp"
android:layout_marginTop="16dp"
android:layout_marginEnd="16dp"
android:hint="Last Name"
android:inputType="text" />
<EditText>
```



```
android:id="@+id/lastName"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginStart="16dp"
android:layout_marginTop="16dp"
android:layout_marginEnd="16dp"
android:hint="Last Name"
android:inputType="text" />
<EditText
android:id="@+id/email"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginStart="16dp"
android:layout_marginTop="16dp"
android:layout_marginEnd="16dp"
android:hint="Email"
android:inputType="textEmailAddress" />
<EditText
android:id="@+id/password"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginStart="16dp"
android:layout_marginTop="16dp"
android:layout_marginEnd="16dp"
android:hint="Password"
android:inputType="textPassword" />
<LinearLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="8dp"
android:gravity="end" android:orientation="horizontal">
```

```

<Button
    android:id="@+id/cancelButton"
    style="@style/Widget.AppCompat.Button.Borderless"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="4dp"
    android:text="CANCEL"
    android:textColor="@color/white" />

<Button
    android:id="@+id/proceedButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="16dp"
    android:backgroundTint="@color/black"
    android:text="PROCEED"
    Applicationsandroid:textColor="@android:color/white"
    tools:ignore="ButtonStyle" />

</LinearLayout>

</LinearLayout>

```

Java Code

```

package com.example.ui;

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

public class Ui_validation extends AppCompatActivity {
    Button bCancel, bProceed;
    EditText etFirstName, etLastName, etEmail, etPassword;
    boolean isAllFieldsChecked = false;

```

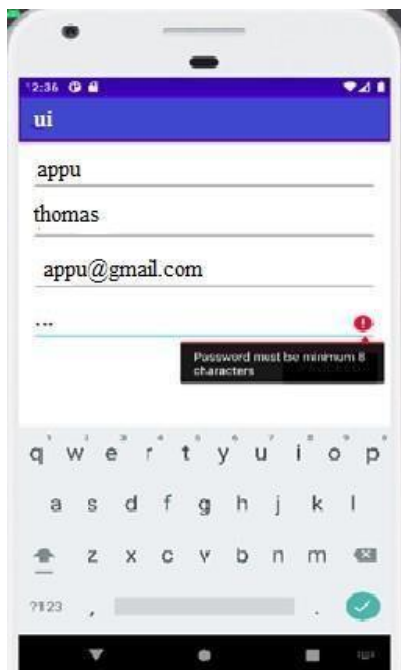
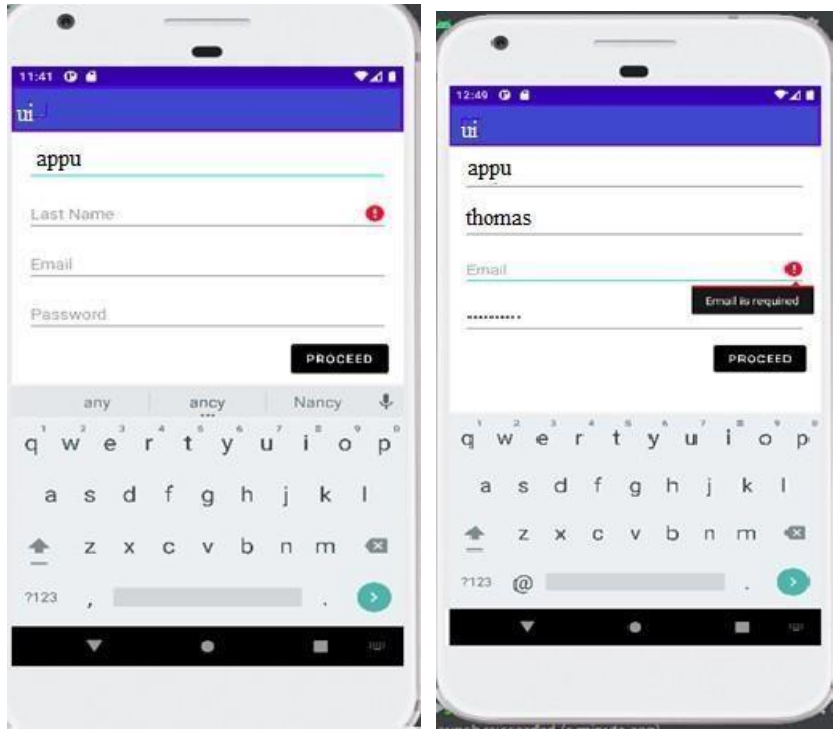
```

Applications@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_ui_validation);
    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(Ui_validation.this, Dashboard.class);
                startActivity(i);
            }
        }
    });
    bCancel.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Ui_validation.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;
}
}
}
```

OUTPUT



PROGRAM NO :6

AIM: Design a registration activity and store registration details in local memory of phone using Intents and SharedPreferences.

XML Code:

activity.xml

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="@color/teal_700"
tools:context=".MainActivity">

<Button
android:id="@+id/btnadd"
android:layout_width="87dp"
android:layout_height="52dp"
android:text="ADD"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/tv111"
app:layout_constraintVertical_bias="0.12"/>

<TextView
android:id="@+id/tv111"
android:layout_width="293dp"
android:layout_height="100dp"
android:layout_marginTop="176dp"
android:textFontWeight="@integer/material_motion_duration_long_1"
app:layout_constraintEnd_toEndOf="parent"
```

```

app:layout_constraintHorizontal_bias="0.745"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

add.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=".add">
<Button
android:id="@+id/btnsub"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginBottom="56dp"
android:text="SAVE"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.498"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/editTextdta"
app:layout_constraintVertical_bias="0.241" />
<EditText
android:id="@+id/editTextdta"
android:layout_width="199dp"

```

```

android:layout_height="54dp"

android:layout_marginTop="248dp"
android:ems="10"
android:inputType="textPersonName"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
<TextView
    android:id="@+id/textviewname"
    android:layout_width="207dp"
    android:layout_height="46dp"
    android:text="Name"
    app:layout_constraintBottom_toTopOf="@+id/editTextdta"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.686" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java code

```

package com.example.todolist1;

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

public class MainActivity extends AppCompatActivity {

```



```

Button btn;
TextView tv11;
SharedPreferences sharedPreferences;
public static final String SHARED_PREF_NAME="mypref";
public static final String KEY_NAME="";
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    addListeneronButton();
}
private void addListeneronButton() {
    btn=(Button) findViewById(R.id.btnadd);
    tv11=(TextView) findViewById(R.id.tv111);
    sharedPreferences = getSharedPreferences(SHARED_PREF_NAME,MODE_PRIVATE);
    String name=sharedPreferences.getString(KEY_NAME,String.valueOf(0));
    tv11.setText("Name "+name);
    btn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            Intent intent=new Intent(MainActivity.this,add.class);
            startActivity(intent);
        }
    });
}
}

```

Add.java

```
package com.example.todolist;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class add extends AppCompatActivity {
    EditText tf;
    TextView tv;
    Button sub;
    String n1;
    SharedPreferences sharedPreferences;

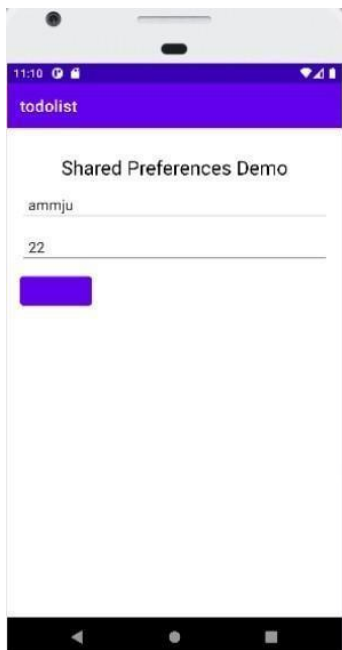
    public static final String SHARED_PREF_NAME="mypref";
    public static final String KEY_NAME="";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_add);
        addButton();
    }
    private void addButton() {
        sub = (Button) findViewById(R.id.btnsub);
        tv = (TextView) findViewById(R.id.textviewname);
```

```

tf = (EditText) findViewById(R.id.editTextdata);
sharedPreferences = getSharedPreferences(SHARED_PREF_NAME,MODE_PRIVATE);
String name = sharedPreferences.getString(KEY_NAME, String.valueOf(0));
sub.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        String n1=tf.getText().toString();
        SharedPreferences.Editor editor = sharedPreferences.edit();
        editor.putString(KEY_NAME,n1);
        editor.commit();
        Intent int1 = new Intent(add.this, MainActivity.class);
        startActivity(int1);
    }
});
}
}
}

```

OUTPUT





PROGRAM NO: 7

AIM: Design a simple Calculator using GridLayout and Cascaded LinearLayout.

XML Code:

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

<LinearLayout

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:background="#00000000"

    android:layout_gravity="bottom"

    android:gravity="bottom"

    android:orientation="vertical"

    tools:context=".Output">

    <LinearLayout

        android:layout_width="match_parent

        "

        android:layout_height="wrap_conten

        t" android:orientation="vertical">
```

```

<LinearLayout

    android:layout_width="match_parent
    "

    android:layout_height="wrap_content"

    android:layout_gravity="end"
    android:orientation="vertical"

>

```

```

<TextView

    android:layout_width="match_parent
    "

    android:layout_height="wrap_content"
    android:layout_marginEnd="20dp"
    android:text="18+7"
    android:textAlignment="textEnd"
    android:textColor="@color/black"
    android:textSize="40dp" />

```

```

<TextView

    android:layout_width="match_parent
    "

    android:layout_height="wrap_content"
    android:layout_marginEnd="20dp"
    android:text="25"
    android:textAlignment="textEnd"

```

```

        android:textColor="@color/black"

        android:textSize="40dp" />
</LinearLayout>

```

```

<GridLayout
    android:layout_width="wrap_content"
    "
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:layout_weight="
    1"
    android:columnCount="4"
    "
    android:gravity="bottom"
    android:rowCount="4">

```

```

<Button
    android:id="@+id/b9"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="9"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

<Button

```

    android:id="@+id/b8"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="8"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```

    android:id="@+id/b7"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_butto
n"

```

```

    android:text="7"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

<Button

```

    android:id="@+id/bmult"
    android:layout_width="wrap_content"
"
    android:layout_height="wrap_conten

```



```

t"    android:layout_margin="10dp"

    android:background="#F86605"

    android:text="x"

    android:textColor="@color/white"

    android:textSize="18dp"/>

```

<Button

```

    android:id="@+id/b6"

    android:layout_width="50dp"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:background="@drawable/bg_button"

    android:text="6"

    android:textColor="@color/white"

    android:textSize="25dp"/>

```

<Button

```

    android:id="@+id/b5" android:layout_width="50dp"

    android:layout_height="wrap_content"

    android:layout_margin="10dp"

    android:background="@drawable/bg_button"

    android:text="5"

    android:textColor="@color/white"

    android:textSize="25dp"/>

```

<Button

```

    android:id="@+id/b4"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="4"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

<Button

```

    android:id="@+id/bdiv"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#F86605"
    android:text="/"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

<Button

```

    android:id="@+id/b3" android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"

```

```

    android:text="3"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```
<Button
```

```

    android:id="@+id/b2"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="2"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```
<Button
```

```

    android:id="@+id/b1"
    android:layout_width="50"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"
    android:text="1"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```
<Button
```

```

    android:id="@+id/bminus"
    android:layout width="wrap_content"

```

```

android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="#F86605"
android:text="-"
android:textColor="@color/white"
android:textSize="25dp"/>

```

<Button

```

android:id="@+id/b0"
android:layout_width="50dp"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"

android:text="0"
android:textColor="@color/white"
android:textSize="25dp" />

```

<Button

```

android:id="@+id/b."
android:layout_width="50dp"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="."
android:textColor="@color/white"
android:textSize="25dp" />

```

```

<Button
    android:id="@+id/bequal"
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="@drawable/bg_button"

    android:text=""
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```

<Button
    android:id="@+id/bplus"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#F86605"
    android:text="+"
    android:textColor="@color/white"
    android:textSize="25dp" />

```

```

</GridLayout>

```

```

</LinearLayout>

```

```

</LinearLayout>

```

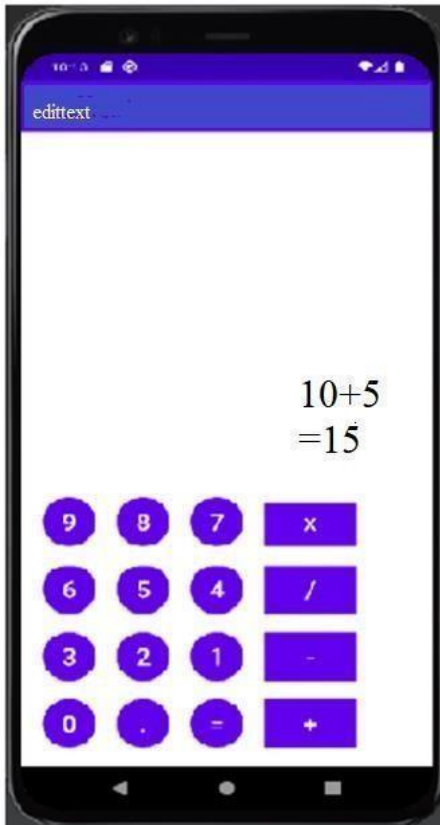
Java Code

```
package com.example.editttext;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;

public class Output extends AppCompatActivity {
    TextView t1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_output);
    }
}
```

OUTPUT



PROGRAM NO: 08

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

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/white"
    tools:context=".facebook">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"

        android:background="#29487D"
        android:gravity="center|top"
        android:orientation="vertical">

        <LinearLayout
            android:layout_width="wrap_content"
```


android:layout_height="wrap_content "

android:layout_marginTop="70dp"

android:layout_marginBottom="100d

p"android:orientation="vertical">

<TextView

android:layout_width="wrap_content

"

android:layout_height="wrap_content"

android:fontFamily="@font/arvo"

android:padding="10dp"

android:text="facebook"

android:textColor="@color/white"

android:textSize="36dp"/>

</LinearLayout>

<LinearLayout

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:padding="15dp"

android:orientation="vertical"

android:layout_margin="20dp">

<EditText

android:layout_width="match_parent"

android:layout_height="wrap_content"

```

        android:hint="Email    or    Phone"
        android:layout_marginBottom="30dp
        android:layout_marginBottom="100dp"
        android:orientation="vertical">

```

```
<TextView
```

```

        android:layout_width="wrap_content
        "
        android:layout_height="wrap_content"
        android:fontFamily="@font/arvo"
        android:padding="10dp"
        android:text="facebook"
        android:textColor="@color/white"
        android:textSize="36dp" />

```

```
</LinearLayout>
```

```
<LinearLayout
```

```

        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        "
        android:padding="15dp"
        android:orientation="vertical"
        android:layout_margin="20dp">

```

```
<EditText
```

```

        android:layout_width="match_parent

```

```

"
    android:layout_height="wrap_content"
    android:hint="Email or Phone"
    android:layout_marginBottom="30dp"

"

    android:textColorHint="#594F4F"/>

<EditText

    android:layout_width="match_parent"
    "

    android:layout_height="wrap_content"
    t"

    android:layout_marginBottom="30dp"
    p"        android:hint="password"
    android:textColorHint="#594F4F"/>

<Button

    android:layout_width="match_parent"
    "

    android:layout_height="wrap_content"
    t" android:text="Log In"

    android:background="@color/design_default_color_primary"
    y" android:textAllCaps="false"/>

</LinearLayout>

```

```
<LinearLayout
```

```

        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"

```

```

        android:layout_marginTop="180dp"
        android:layout_gravity="bottom"
        android:gravity="center">

```

```
<TextView
```

```

        android:layout_width="wrap_content"
        "

```

```

        android:layout_height="wrap_content"
        "                android:gravity="end"

```

```
        android:textStyle="bold"
```

```
        android:textColor="@color/white"
```

```
        android:layout_weight="50"
```

```

        android:text="SignUp                for
        Facebook"/>

```

```
<TextView
```

```

        android:layout_width="wrap_content"
        "

```

```

        android:layout_height="wrap_content"
        "                android:gravity="end"

```

```
        android:textColor="@color/white"
```

```
        android:layout_marginEnd="130dp"
```

```
        android:layout_weight="1"
```

```
        android:textStyle="bold"
```

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

</LinearLayout>

</LinearLayout>

</LinearLayout>

Java Code

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

OUTPUT



PROGRAM NO: 09

AIM: Develop an application that toggles image using FrameLayout.

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout
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:layout_gravity="center" android:background="@color/bg2"
tools:context=".image_toogle">
<ImageView
android:id="@+id/image2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_gravity="center"
android:src="@drawable/vd" android:visibility="gone"/>
<ImageView
android:id="@+id/image1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_gravity="center"
android:src="@drawable/applogo"/>
</FrameLayout>
```

Java Code

```
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
public class image_toogle extends AppCompatActivity implements View.OnClickListener
{
```

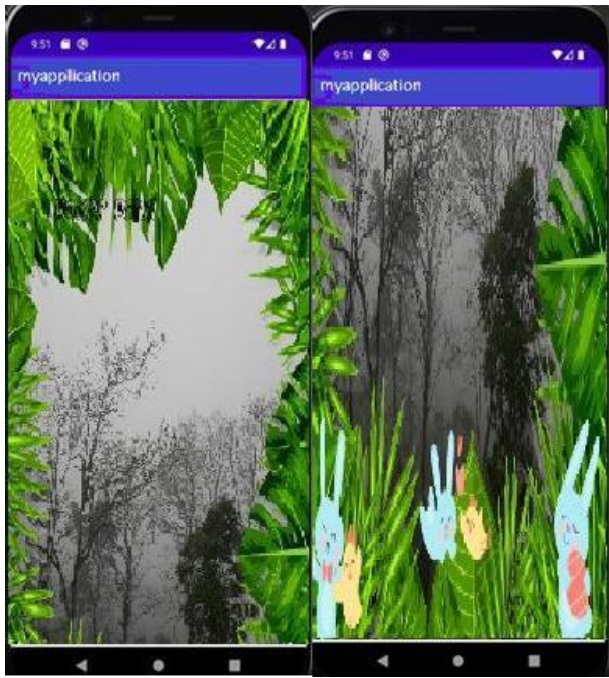
```
ImageView img1, img2;

@Override

protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_image_toogle);
    img1 = findViewById(R.id.image1);
    img2 = findViewById(R.id.image2);
    simg1.setOnClickListener(this);
    img2.setOnClickListener(this);
}

public void onClick(View v) {
    int id = v.getId();
    switch (id) {
        case R.id.image1:
            img1.setVisibility(View.GONE);
            img2.setVisibility(View.VISIBLE);
            break;
        case R.id.image2:
            img1.setVisibility(View.VISIBLE);
            img2.setVisibility(View.GONE);
            break;
    }
}
}
```


OUTPUT



PROGRAM NO: 10

AIM: Implement Adapters and perform exception handling

XML Code:

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

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

    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    tools:context=".exception">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="TextView"/>

</LinearLayout>
```

Java Code

```
package com.example.myapplication;

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

public class exception extends AppCompatActivity {
    TextView textView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_exception);
        try {
            textView.setText("Hello there...");
        } catch (Exception e) {
```

```
Toast.makeText(this, e.getMessage(), Toast.LENGTH_SHORT).show();  
}  
}  
}
```

OUTPUT



PROGRAM NO: 11

Aim: Implement Intent to navigate between multiple activities(explicit intent).

XML Code:

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

android:layout_width="match_parent"
android:layout_height="match_parent"
android:onClick="callActivity"
tools:context=".intent_activity">
<EditText
android:id="@+id/name"

android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:hint="Name"
android:inputType="textPersonName"

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.437"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.148" />
<EditText
android:id="@+id/address"

android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10" android:hint="Address"
android:inputType="textPersonName"

app:layout_constraintBottom_toBottomOf="parent"
```

```

app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.437"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.313" />
<EditText
    android:id="@+id/email"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10" android:hint="Email"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.437"
    app:layout_constraintStart_toStartOf="parent"
    sapp:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.475" />
<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Submit"
    android:onClick="callActivity"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.454"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.609" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Display.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=".intent_act2">

\<TextView
android:id="@+id/view3"
android:layout_width="189dp"
android:layout_height="36dp
" android:textAlignment="center"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.459"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.398" />
<TextView
android:id="@+id/view1"
android:layout_width="189dp"
android:layout_height="36dp"
android:textAlignment="center"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.459"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"

```

```

app:layout_constraintVertical_bias="0.22" />
<TextView
    android:id="@+id/view2" android:layout_width="189dp"
    android:layout_height="36dp"
    android:textAlignment="center"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.459"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.306" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code

```

package com.example.exam;

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 intent_activity extends AppCompatActivity {
    Button b1;

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

    public void callActivity(View view) {
        Intent i = new Intent(intent_activity.this, intent_act2.class);
        final EditText editText1 = (EditText)findViewById(R.id.name);
        String msg = editText1.getText().toString();
    }
}

```

```

final EditText editText2= (EditText)findViewById(R.id.address);
String add = editText2.getText().toString();
final EditText editText3 = (EditText)findViewById(R.id.email);
String em = editText3.getText().toString();
i.putExtra("Value1", msg);
i.putExtra("Value2", add);
i.putExtra("Value3", em);
startActivity(i);
}
}

```

Display.java

```

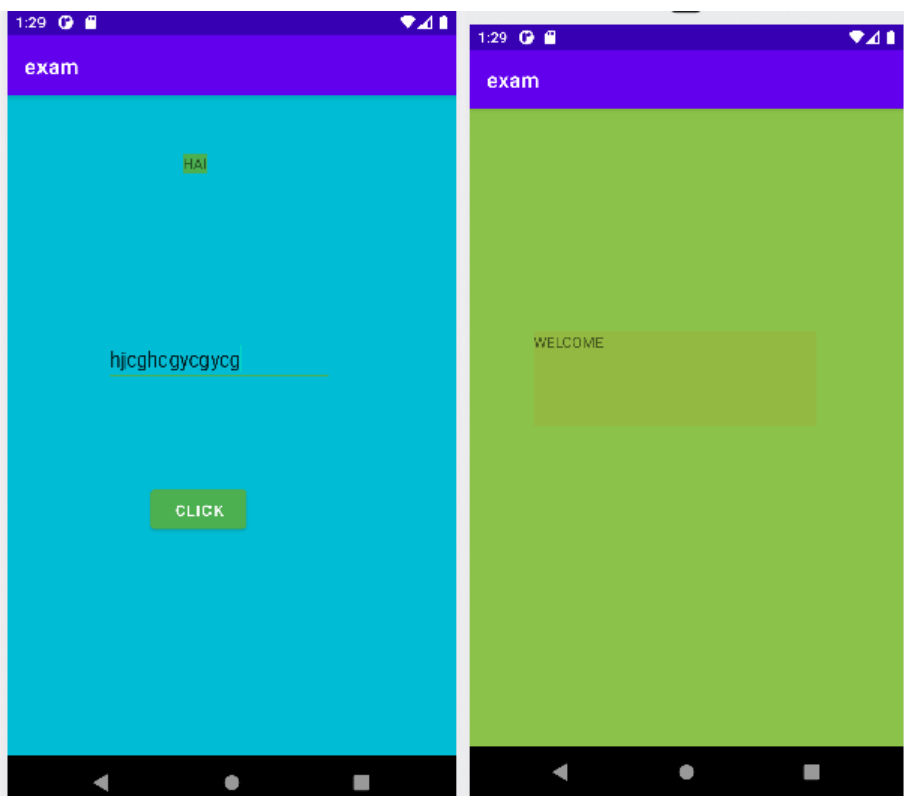
package com.example.exam;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
public class intent_act2 extends AppCompatActivity {
    TextView view1;
    TextView view2;
    TextView view3;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_intent_act2);
        view1 = (TextView) findViewById(R.id.view1);
        view2 = (TextView) findViewById(R.id.view2);
        view3 = (TextView) findViewById(R.id.view3);
        Bundle extras = getIntent().getExtras();
        String value1 = extras.getString("Value1");
        String value2 = extras.getString("Value2");
        String value3 = extras.getString("Value3");
    }
}

```



```
view1.setText(value1);  
view2.setText(value2);  
view3.setText(value3);  
}  
}
```

OUTPUT



PROGRAM NO: 12

AIM: Develop an application that works with implicit intents.

XML Code:

```
<?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=".explicit">

<Button

android:id="@+id/cm"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:text="Refer Google"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent" />

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

Java Code

```
package com.example.myapplication;

import androidx.appcompat.app.ActionBar;
```

```
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

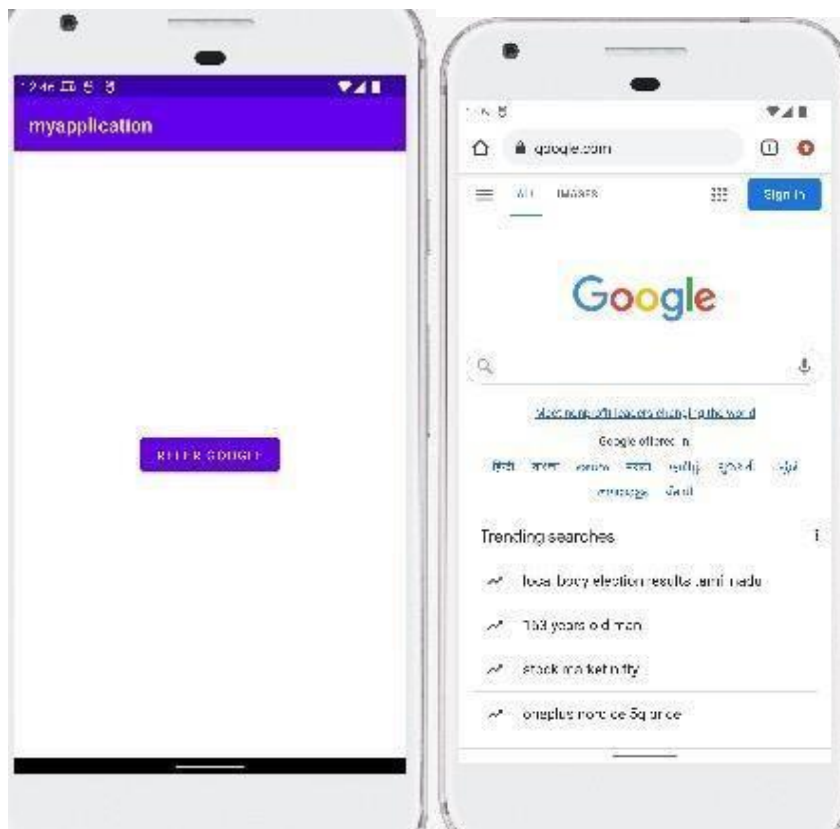

import android.net.Uri;
import android.net.UrlQuerySanitizer;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;


public class explicit extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_explicit);
        Button click = findViewById(R.id.cm);
        click.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent j = new Intent(Intent.ACTION_VIEW, Uri.parse("https://www.google.com/"));
                startActivity(j);
            }
        });
    }
}
```

OUTPUT



PROGRAM NO: 13

AIM: Implement Options Menu to navigate to activities.

XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
<item android:id="@+id/item1" android:title="Home"/>
<item android:id="@+id/item2" android:title="Settings"/>
<item android:id="@+id/item3" android:title="About"/>
<item android:id="@+id/item4" android:title="Help"/>
<item android:id="@+id/item5" android:title="LogOut"/>
</menu>

<?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=".menu_bar">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Welcome Home..!"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Java Code

```

package com.example.myapplication;

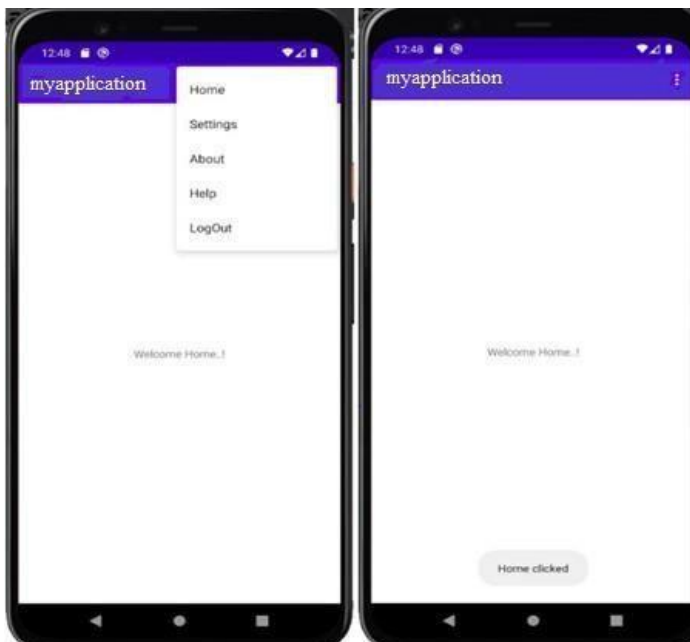
import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;

public class menu_bar extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_menu_bar);
    }
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.menu_list, menu);
        return true;
    }
    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId()) {
            case R.id.item1:
                Toast.makeText(getApplicationContext(), "Home clicked", Toast.LENGTH_SHORT).show();
                return true;
            case R.id.item2:
                Toast.makeText(getApplicationContext(), "Settings clicked",
                    Toast.LENGTH_SHORT).show();
                return true;
            case R.id.item3:
                Toast.makeText(getApplicationContext(), "About clicked", Toast.LENGTH_SHORT).show();
                return true;
        }
    }
}

```

```
case R.id.item4:  
    Toast.makeText(getApplicationContext(), "Help clicked", Toast.LENGTH_SHORT).show();  
    return true;  
case R.id.item5:  
    Toast.makeText(getApplicationContext(), "Logout clicked",  
        Toast.LENGTH_SHORT).show();  
    return true;  
default:  
    return super.onOptionsItemSelected(item);  
}  
}  
}
```

OUTPUT



PROGRAM NO: 14

AIM: Develop an application that uses ArrayAdapter with ListViewXML.

XML Code

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

Java Code

```
package com.example.myapplication;
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.ListView;
import android.widget.TextView;
import android.widget.Toast;

public class arrayAdapter extends AppCompatActivity implements
AdapterView.OnItemClickListener {
    ListView l;

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



```

@Override

protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_array_adapter);
    l = findViewById(R.id.mobile_list);

    ArrayAdapter<String>adapter=new                                ArrayAdapter<String>(this,
    R.layout.support_simple_spinner_dropdown_item, days);
    l.setAdapter(adapter);
    l.setOnItemClickListener(this);
}

@Override

public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {
    TextView temp = (TextView) view;
    Toast.makeText(this, "You clicked " + temp.getText() + " at " + i,
    Toast.LENGTH_LONG).show();
}
}

```

OUTPUT



PROGRAM NO:15

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

XML Code:

```
<?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=".MainActivity3">

<TextView

android:id="@+id/textView4"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginStart="169dp"

android:layout_marginTop="94dp"

android:layout_marginEnd="140dp"

android:layout_marginBottom="618dp"

android:text="Alert And Popup"

app:layout_constraintBottom_toBottomOf="parent"
```

```

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code

```

package com.example.myapplication15_12_2;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AlertDialog;

import androidx.appcompat.app.AppCompatActivity;

import android.content.DialogInterface;

import android.content.Intent;

import android.os.Bundle;

import android.view.Menu;

import android.view.MenuItem;

import android.view.View;

import android.widget.Button;

import android.widget.ImageView;

import android.widget.TextView;

import android.widget.Toast;

public class MainActivity3 extends AppCompatActivity {

    ImageView i;

    AlertDialog.Builder builder;

```

```

AlertDialog alertDialog;

Button b;

@Override

public boolean onCreateOptionsMenu(Menu menu) {

    getMenuInflater().inflate(R.menu.menu,menu);

    return true;

    super.onCreateOptionsMenu(menu);

}

@Override

public boolean onOptionsItemSelected(@NonNull MenuItem item) {

    item.setIcon(R.drawable.about);

    i=findViewById(R.id.imageView);

    TextView t=findViewById(R.id.textView4);

    switch (item.getItemId()) {

        case R.id.it3:

            builder=new AlertDialog.Builder(MainActivity3.this);

            builder.setMessage("Do you want to

            close?").setTitle("AlertDialog").setPositiveButton("OK", new

            DialogInterface.OnClickListener() {

                @Override

                public void onClick(DialogInterface dialog, int which) {

                    finish();

                }
            }

```

```

    }).setNegativeButton("Cancel", new DialogInterface.OnClickListener() {

@Override

public void onClick(DialogInterface dialog, int which) {

    dialog.dismiss();

}

});

alertDialog=builder.create();

alertDialog.show();

return true;

case R.id.it4:

builder=new AlertDialog.Builder(MainActivity3.this);

View popupView=getLayoutInflater().inflate(R.layout.popup1,null);

builder.setView(popupView);

alertDialog=builder.create();

alertDialog.show();

return true;

default:

return super.onOptionsItemSelected(item);

}

}

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

```

```
setContentView(R.layout.activity_main3);  
  
}}
```

Popup1.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">  
  
    <ImageView  
        android:id="@+id/imageView2"  
        android:layout_width="wrap_content"  
        android:layout_height="wrap_content"  
        android:layout_weight="1"  
        android:src="@drawable/help" />  
  
    <TextView  
        android:id="@+id/textView3"  
        android:layout_width="wrap_content"  
        android:layout_height="wrap_content"  
        android:layout_weight="1"  
        android:text="help" />
```

</LinearLayout>

Menu.xml

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

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

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

```
<item
```

```
android:id="@+id/it3"
```

```
android:title="Alert" />
```

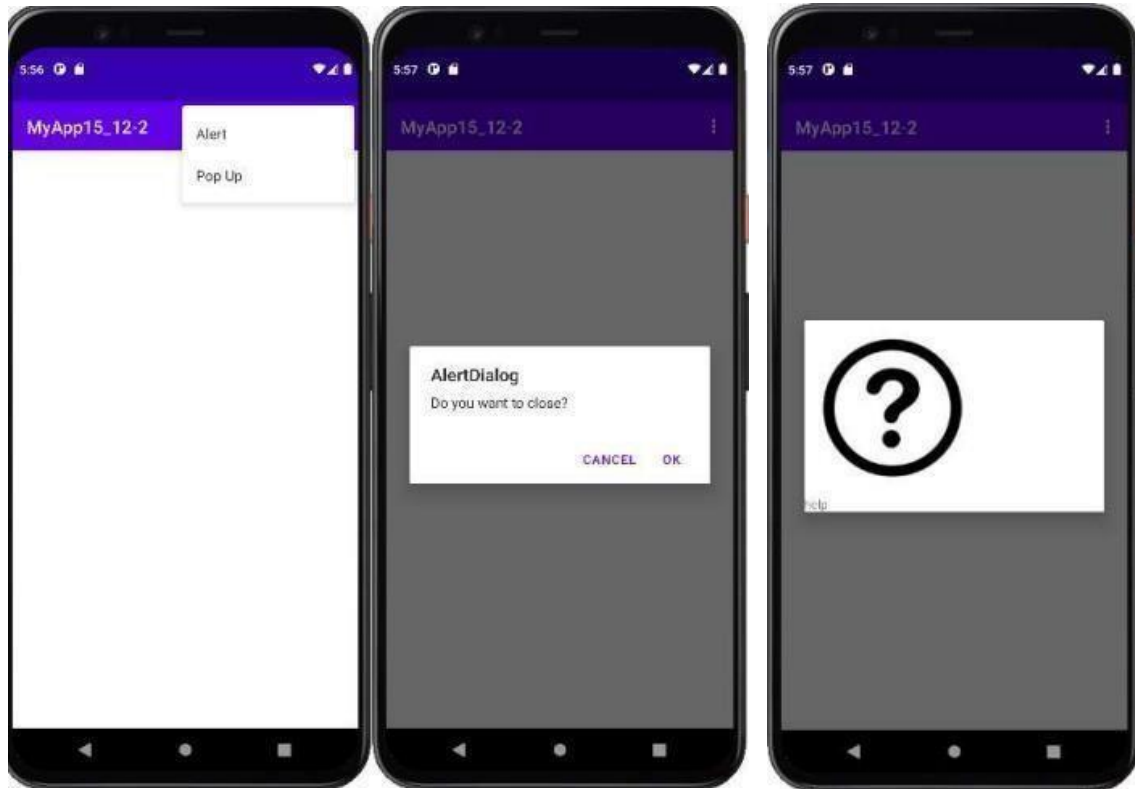
```
<item
```

```
android:id="@+id/it4"
```

```
android:title="Pop Up" />
```

```
</menu>
```


OUTPUT



PROGRAM NO:16

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

XML Code:

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

    <Spinner
        android:id="@+id/spinner"
        android:layout_width="409dp"
        android:layout_height="40dp"
        android:layout_marginStart="16dp"
        android:layout_marginTop="8dp"
        android:layout_marginBottom="8dp"
        android:minHeight="48dp" />

</LinearLayout>
```

Java Code

```
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.AdapterView.OnItemSelectedListener;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemClickListener {
    String[] country = { "India", "USA", "China", "Japan", "Other" };
    @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, country);
        aa.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);

        spin.setAdapter(aa);
    }

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

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

```

```
}
```

```
}
```

OUTPUT



PROGRAM NO :17

AIM: Program to apply themes via code from manifest file

XML Code:

```
<?xmlversion="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">

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

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

android:inputType="textPersonName"
    android:minHeight="48dp"
    android:text="avani"

app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"

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

Java Code

```
package com.example.themes;

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

colors.xml

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

<resources>

<color name="colorPrimary">#006064</color>

<color name="color_primary_dark">#00838F</color>

<color name="color_accent">#B2DFDB</color>

<color name="color_text_color_primary">#03A9F4</color>

</resources>
```

new_style.xml

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

<!-- Base application theme. -->

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

```

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

<item name="colorPrimaryDark">@color/color_primary_dark</item>

<item name="colorAccent">@color/color_accent</item>

<item name="android:textColorPrimary">@color/color_text_color_primary</item>

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

</style>

</resources>

```

#values\themes.xml

```

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

<!-- Base application theme. -->

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

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

<item name="colorPrimaryDark">@color/color_primary_dark</item>

<item name="colorAccent">@color/color_accent</item>

<item name="android:textColorPrimary">@color/color_text_color_primary</item>

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

</style>

</resources>

```

AndroidManifest.xml

```

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

<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.themes" >

```

```

<application android:allowBackup="true" and
roid:icon="@mipmap/ic_launcher" android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportRtl="true"

    android:theme="@style/Theme.new_style">
    <activity
        android:name=".MainActivity" android:exported="true"
    >
        <intent-filter>

        <action android:name="android.intent.action.MAIN" />

        <category android:name="android.intent.category.LAUNCHER" />

        </intent-filter>

    </activity>

</application>

</manifest>

#night\themes.xml

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

    <!-- Base application theme. -->

    <style
        name="Theme.Themes"
        parent="Theme.MaterialComponents.DayNight.DarkActionBar">
        <item name="colorPrimary">@color/colorPrimary</item>

        <item name="colorPrimaryDark">@color/color_primary_dark</item>

```



```
<item name="colorAccent">@color/color_accent</item>  
  
<item name="android:textColorPrimary">@color/color_text_color_primary</item>  
  
<item name="android:textSize">40sp</item>  
  
</style>  
  
</resources>
```

OUTPUT



PROGRAM NO:18

AIM: Develop an application using fragments

XML Code:

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

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

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

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

android:layout_width="match_parent"

android:layout_height="match_parent"

android:orientation="vertical"

tools:context=".MainActivity">

<FrameLayout

android:id="@+id/frameLayout"

android:layout_width="match_parent"

android:background="@color/teal_200"

android:layout_height="0dp"

android:layout_weight="4" />

<RelativeLayout

android:layout_width="match_parent"

android:layout_height="0dp"
```

```
android:layout_weight="1">
```

```
<Button
```

```
android:id="@+id/b1"
```

```
android:layout_width="160dp"
```

```
android:layout_height="50dp"
```

```
android:layout_alignParentBottom="true"
```

```
android:layout_marginStart="30dp"
```

```
android:layout_marginBottom="30dp"
```

```
android:text="Fragment 1" />
```

```
<Button
```

```
android:id="@+id/b2"
```

```
android:layout_width="160dp"
```

```
android:layout_height="50dp"
```

```
android:layout_alignParentBottom="true"
```

```
android:layout_alignParentRight="true"
```

```
android:layout_marginStart="30dp"
```

```
android:layout_marginBottom="30dp"
```

```
android:text="Fragment 2" />
```

```
</RelativeLayout>
```

```
</LinearLayout>
```

Java Code

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import androidx.fragment.app.Fragment;

import androidx.fragment.app.FragmentManager;

import androidx.fragment.app.FragmentTransaction;


import android.os.Bundle;

import android.view.View;

import android.widget.Button;


public class MainActivity extends AppCompatActivity {

    Button b1,b2;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        b1=findViewById(R.id.b1);

        b2=findViewById(R.id.b2);
```

```
b1.setOnClickListener(new View.OnClickListener() {
```

```
@Override
```

```
public void onClick(View v) {
```

```
replaceFragmnt(new fragment1());
```

```
}
```

```
});
```

```
b2.setOnClickListener(new View.OnClickListener() {
```

```
@Override
```

```
public void onClick(View v) {
```

```
replaceFragmnt(new fragment2());
```

```
}
```

```
});
```

```
}
```

```
private void replaceFragmnt(Fragment fragment) {
```

```
FragmentManager
```

```
fragmentManager=getSupportFragmentManager();
```

```
FragmentTransaction
```

```
fragmentTransaction=fragmentManager.beginTransaction
```

```
on();
```

```

fragmentTransaction.replace(R.id.frameLayout, fragmen
t);

fragmentTransaction.commit();

}

}

```

fragment1.java

```
package com.example.myapplication;
```

```
import android.os.Bundle;
```

```
import androidx.fragment.app.Fragment;
```

```
import android.view.LayoutInflater;
```

```
import android.view.View;
```

```
import android.view.ViewGroup;
```

```
public class fragment1 extends Fragment {
```

```
    @Override
```

```
    public View onCreateView(LayoutInflater inflater,
        ViewGroup container,
```

```
        Bundle savedInstanceState) {
```

```

return inflater.inflate(R.layout.fragment_fragment1,
container, false);

}

}

```

fragment2.java

```

package com.example.myapplication;

import android.os.Bundle;

import androidx.fragment.app.Fragment;

import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

public class fragment2 extends Fragment {

    @Override

    public View onCreateView(LayoutInflater inflater,
    ViewGroup container,
    Bundle savedInstanceState) {

        return inflater.inflate(R.layout.fragment_fragment2,
        container, false);

    }
}

```

```
}
```

fragment_fragment1.xml

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

<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/an
droid"

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

android:layout_width="match_parent"

android:layout_height="match_parent"

android:background="@color/purple_700"

tools:context=".fragment1">

<TextView

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_centerInParent="true"

android:textSize="30dp"

android:text="Fragment 1" />

</RelativeLayout>
```

fragment_fragment2.xml

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



```
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/an
droid"

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

android:layout_width="match_parent"

android:layout_height="match_parent"

android:background="@color/teal_700"

tools:context=".fragment2">

<!-- TODO: Update blank fragment layout -->

<TextView

android:layout_width="wrap_content"

android:layout_height="wrap_content"

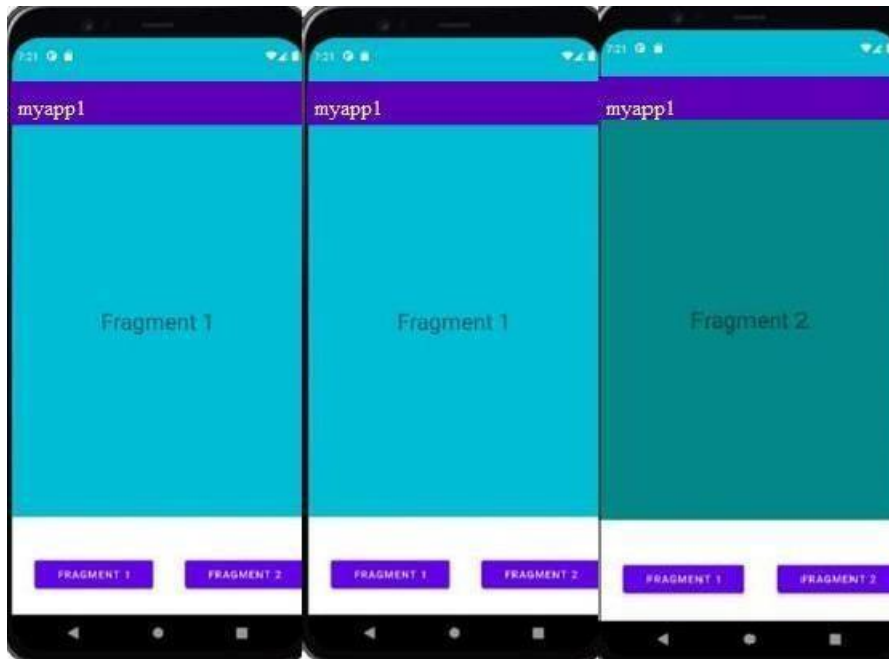
android:layout_centerInParent="true"

android:textSize="30dp"

android:text="Fragment 2" />

</RelativeLayout>
```

OUTPUT



PROGRAM NO:19

AIM: Implement Navigation drawer

XML Code:

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

<androidx.drawerlayout.widget.DrawerLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity"
android:id="@+id/drawer">

<LinearLayout
android:layout_width="match_parent"
android:layout_height="match_parent">

<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" />
</LinearLayout>

<com.google.android.material.navigation.NavigationView
android:layout_width="match_parent"
android:layout_height="match_parent"
android:id="@+id/navigation_view"
app:menu="@menu/navigation_menu"
android:layout_gravity="start"/>
```

```
</androidx.drawerlayout.widget.DrawerLayout>
```

Java Code

```
package com.example.drawernavigation;

import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.drawerlayout.widget.DrawerLayout;
import android.app.ActionBar;
import android.os.Bundle;
import android.view.MenuItem;
import android.widget.Toast;
import com.google.android.material.navigation.NavigationView;

public class MainActivity extends AppCompatActivity implements
NavigationView.OnNavigationItemSelectedListener{

    public DrawerLayout drawerLayout;
    public ActionBarDrawerToggle actionBarDrawerToggle;

    @Override

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        drawerLayout = findViewById(R.id.drawer);
        actionBarDrawerToggle = new ActionBarDrawerToggle(this, drawerLayout,
            R.string.nav_open, R.string.nav_close);
        drawerLayout.addDrawerListener(actionBarDrawerToggle);
        actionBarDrawerToggle.syncState();
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        NavigationView navigationView = findViewById(R.id.navigation_view);
        navigationView.setNavigationItemSelectedListener(this);
    }

    @Override

    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        if (actionBarDrawerToggle.onOptionsItemSelected(item)) {
```

```

return true;
}

return super.onOptionsItemSelected(item);
}

@Override

public boolean onNavigationItemSelected(@NonNull MenuItem item) {
    int id = item.getItemId();
    if (id == R.id.nav_account) {
        Toast.makeText(this, "home", Toast.LENGTH_SHORT).show();
    }
    if (id == R.id.nav_settings) {
        Toast.makeText(this, "settings", Toast.LENGTH_SHORT).show();
    }
    if (id == R.id.nav_logout) {
        Toast.makeText(this, "logout", Toast.LENGTH_SHORT).show();
    }
    return false;
}
}

```

navigation_menu.xml

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/nav_account"
        android:title="MY Account"/>
    <item
        android:id="@+id/nav_settings"
        android:title="Settings"/>
    <item
        android:id="@+id/nav_logout"
        android:title="logout"/>

```

```
</menu>
```

strings.xml

```
<resources>
```

```
<string name="app_name">drawernavigation</string>
```

```
<string name="nav_open">Open</string>
```

```
<string name="nav_close">Close</string>
```

```
</resources>
```

build.gradle(:app)

```
plugins {
```

```
id 'com.android.application'
```

```
}
```

```
android {
```

```
compileSdk 31
```

```
defaultConfig {
```

```
applicationId "com.example.drawernavigation"
```

```
minSdk 21
```

```
targetSdk 31
```

```
versionCode 1
```

```
versionName "1.0"
```

```
testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"
```

```
}
```

```
buildTypes {
```

```
release {
```

```
minifyEnabled false
```

```
proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-rules.pro'
```

```
}
```

```
}
```

```
compileOptions {
```

```
sourceCompatibility JavaVersion.VERSION_1_8
```

```
targetCompatibility JavaVersion.VERSION_1_8
```

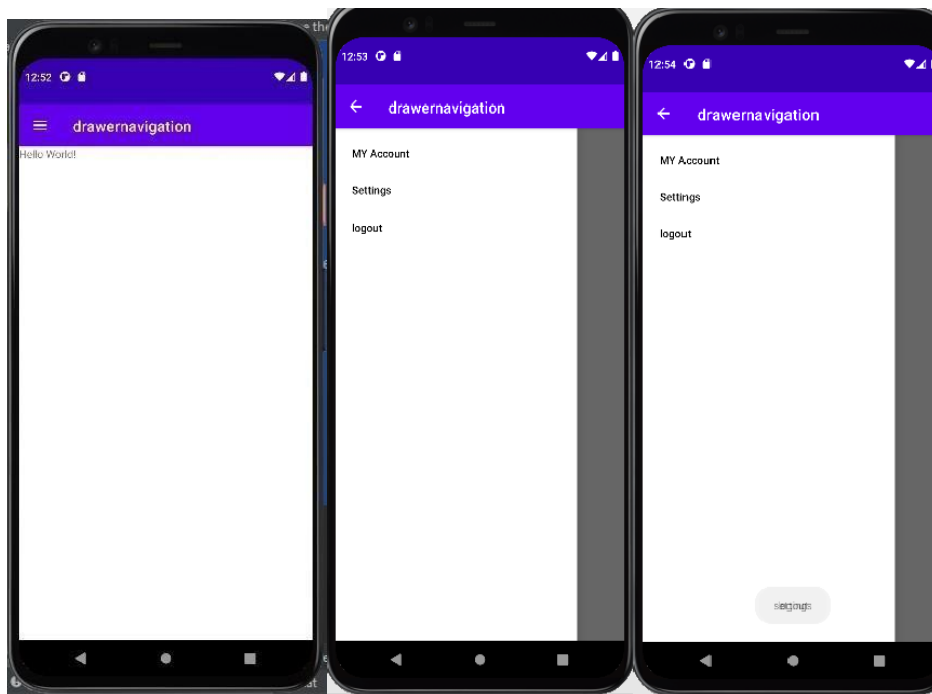
```
}
```

```

}
dependencies {
implementation 'androidx.appcompat:appcompat:1.4.1'
implementation 'com.google.android.material:material:1.5.0'
implementation 'androidx.constraintlayout:constraintlayout:2.1.3'
implementation 'androidx.drawerlayout:drawerlayout:1.1.1'
testImplementation 'junit:junit:4.+ '
androidTestImplementation 'androidx.test.ext:junit:1.1.3'
androidTestImplementation 'androidx.test.espresso:espresso-core:3.4.0'
implementation "com.google.android.material:material:1.4.1"
}

```

OUTPUT



PROGRAM NO:20

Aim: Write a program that demonstrates Activity Lifecycle.

XML Code:

```
<?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="Welcome"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintLeft_toLeftOf="parent"

        app:layout_constraintRight_toRightOf="parent"

        app:layout_constraintTop_toTopOf="parent" />

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


Java Code

```
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
import com.example.myapplication.R;

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","onCreate");
    }

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

        Log.i("State","onRestart");
    }

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

        Log.i("State","onStop");
    }

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

        Log.i("State","onDestroy");
    }
}
```

OUTPUT

```

2022-03-03 11:51:50.642 7632-7644/com.example.myapplication I/e.myapplication: Background young concurrent copying GC freed 14816(1328KB) AllocSpace objec
2022-03-03 11:51:50.953 7632-7653/com.example.myapplication I/OpenGLRenderer: Davey! duration=713ms; Flags=1, IntendedVsync=30119275487723, Vsync=3011927
2022-03-03 11:51:54.248 7632-7644/com.example.myapplication I/e.myapplication: WaitForGcToComplete blocked RunEmptyCheckpoint on ProfileSaver for 5.591ms
2022-03-03 11:52:55.797 7632-7632/com.example.myapplication I/State: onCreate
2022-03-03 11:52:56.821 7632-7632/com.example.myapplication I/State: onStop
2022-03-03 11:52:56.828 7632-7632/com.example.myapplication I/State: onDestroy
2022-03-03 11:53:50.852 7632-7632/com.example.myapplication I/State: onCreate
2022-03-03 11:53:50.861 7632-7632/com.example.myapplication I/State: onStart
2022-03-03 11:53:50.862 7632-7632/com.example.myapplication I/State: onResume
2022-03-03 11:53:57.002 7632-7632/com.example.myapplication I/State: onCreate
2022-03-03 11:53:57.912 7632-7632/com.example.myapplication I/State: onStop
2022-03-03 11:54:07.265 7632-7632/com.example.myapplication I/State: onRestart
2022-03-03 11:54:07.274 7632-7632/com.example.myapplication I/State: onStart
2022-03-03 11:54:07.275 7632-7632/com.example.myapplication I/State: onResume
2022-03-03 11:54:10.704 7632-7632/com.example.myapplication I/State: onCreate
2022-03-03 11:54:11.651 7632-7632/com.example.myapplication I/State: onStop
2022-03-03 11:54:11.653 7632-7632/com.example.myapplication I/State: onDestroy
2022-03-03 11:54:17.578 7632-7632/com.example.myapplication I/State: onCreate
2022-03-03 11:54:17.587 7632-7632/com.example.myapplication I/State: onStart
2022-03-03 11:54:17.588 7632-7632/com.example.myapplication I/State: onResume

```

PROGRAM NO:21

AIM: Program to implement various SQLite operations : (INSERT, UPDATE ,DELETE ,SELECT).

XML Code:

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

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

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

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

android:layout_width="match_parent"

android:layout_height="match_parent"

android:padding="10dp"

tools:context=".MainActivity">

<TextView

android:id="@+id/texttitle"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginTop="20dp"

android:text="Please enter the details below"

android:textSize="24dp" />

<EditText

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

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:hint="Name"
android:textSize="24dp"
android:layout_below="@+id/texttitle"
android:inputType="textPersonName"
/>
```

```
<EditText
android:id="@+id/contact"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:hint="Contact"
android:textSize="24dp"
android:layout_below="@+id/name"
android:inputType="number"
/>
```

```
<EditText
android:id="@+id/dob"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:hint="Date of birth"
android:textSize="24dp"
android:layout_below="@+id/contact"
android:inputType="number"
/>
```

```
<Button  
    android:id="@+id/buttonInsert"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:textSize="24dp"  
    android:text="Insert new Data"  
    android:layout_marginTop="30dp"  
    android:layout_below="@+id/dob"  
/>
```

```
<Button  
    android:id="@+id/buttonUpdate"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:textSize="24dp"  
    android:text="Update Data"  
    android:layout_below="@+id/buttonInsert"  
/>
```

```
<Button  
    android:id="@+id/buttondelete"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:textSize="24dp"  
    android:text="Delete existing data"  
    android:layout_below="@+id/buttonUpdate"  
/>
```

```
<Button
    android:id="@+id/buttonView"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="24dp"
    android:text="View data"
    android:layout_below="@+id/buttondelete"
/>

</RelativeLayout>
```

Java Code

```
package com.example.sqlite_app;

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 MainActivity extends AppCompatActivity {

    EditText name, contact, dob;

    Button insert, update, delete, view;

    DBHelper DB;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        name=findViewById(R.id.name);

        contact=findViewById(R.id.contact);

        dob=findViewById(R.id.dob);

        insert=findViewById(R.id.buttonInsert);

        update=findViewById(R.id.buttonUpdate);

        delete=findViewById(R.id.buttondelete);

        view=findViewById(R.id.buttonView);

        DB=new DBHelper(this);

        insert.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                String nameTXT=name.getText().toString();

                String contactTXT=contact.getText().toString();

                String dobTXT=dob.getText().toString();

```



```

Boolean checkinsertdata=DB.insertuserdata(nameTXT,contactTXT,dobTXT);

if(checkinsertdata==true)

Toast.makeText(MainActivity.this,"NewEntryInserted", Toast.LENGTH_SHORT).show();

else

Toast.makeText(MainActivity.this,"unabletoinsert", Toast.LENGTH_SHORT).show();

}

});

update.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

String nameTXT=name.getText().toString();

String contactTXT=contact.getText().toString();

String dobTXT=dob.getText().toString();


Boolean checkupdatedata=DB.updateuserdata(nameTXT,contactTXT,dobTXT);

if(checkupdatedata==true)

Toast.makeText(MainActivity.this, "Entry updated", Toast.LENGTH_SHORT).show();

else

Toast.makeText(MainActivity.this, "Not updated", Toast.LENGTH_SHORT).show();

}

});

delete.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

String nameTXT=name.getText().toString();

```

```

Boolean checkdeletedata=DB.deletedata(nameTXT);

if(checkdeletedata==true)

Toast.makeText(MainActivity.this, "Entry deleted", Toast.LENGTH_SHORT).show();

else

Toast.makeText(MainActivity.this, "Not deleted", Toast.LENGTH_SHORT).show();

}

});

view.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Cursor res=DB.getdata();

if(res.getCount()==0){

Toast.makeText(MainActivity.this, "No entry exists", Toast.LENGTH_SHORT).show();

return;

}

StringBuffer buffer=new StringBuffer();

while(res.moveToNext()){

buffer.append("Name:"+res.getString(0)+"\n");

buffer.append("Contact:"+res.getString(1)+"\n");

buffer.append("Date of Birth:"+res.getString(2)+"\n");

}

AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);

builder.setCancelable(true);

builder.setTitle("User Entries");

```

```
builder.setMessage(buffer.toString());
```

```
builder.show();
```

```
}
```

```
});
```

```
}
```

```
}
```

DBhelper

```
package com.example.sqlite_app;
```

```
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(Context context) {
```

```
        super(context, "Userdata", null, 1);
```

```
}
```

```
@Override
```

```
public void onCreate(SQLiteDatabase DB) {
```

```
DB.execSQL("create Table Userdetails(name TEXT primary key, contact TEXT, dob TEXT)");
```

```
}
```

```
@Override
```

```
public void onUpgrade(SQLiteDatabase DB, int oldVersion, int newVersion) {
```

```
DB.execSQL("drop Table if exists Userdetails");
```

```
}
```

```
public Boolean insertuserdata(String name, String contact, String dob){
```

```
SQLiteDatabase DB=this.getWritableDatabase();
```

```
ContentValues contentValues=new ContentValues();
```

```
contentValues.put("name",name);
```

```
contentValues.put("contact",contact);
```

```
contentValues.put("dob",dob);
```

```
long result=DB.insert("Userdetails", null, contentValues);
```

```
if(result==-1){
```

```
return false;
```

```
}else{
```

```
return true;
```

```
}
```

```

}

public Boolean updateuserdata(String name, String contact, String dob){

    SQLiteDatabase DB=this.getWritableDatabase();

    ContentValues contentValues=new ContentValues();

    contentValues.put("contact",contact);

    contentValues.put("dob",dob);

    Cursor cursor=DB.rawQuery("Select * from Userdetails where name=?", new
    String[]{name});

    if(cursor.getCount()>0) {

        long result = DB.update("Userdetails",contentValues, "name=?", new String[]{name});

        if(result== -1) {

            return false;

        } else {

            return true;

        }

    }else{

        return false;

    }

}

public Boolean deletedata(String name){

    SQLiteDatabase DB=this.getWritableDatabase();

    Cursor cursor=DB.rawQuery("Select * from Userdetails where name=?", new
    String[]{name});

    if(cursor.getCount()>0) {

        long result = DB.delete("Userdetails", "name=?", new String[]{name});

        if(result== -1) {

```

```
return false;

} else {

return true;

}

}else{

return false;

}

}

public Cursor getdata (){

SQLiteDatabase DB=this.getWritableDatabase();

Cursor cursor=DB.rawQuery("Select * from Userdetails",null);

return cursor;

}

}
```

OUTPUT





