

PROGRAM NO : 1

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

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">
```

```
<EditText
    android:id="@+id/editTextTextPassword"
    android:layout_width="203dp"
    android:layout_height="44dp"
    android:layout_marginBottom="28dp"
    android:ems="10"
    android:hint = "Password"
    android:inputType="textPassword"
    app:layout_constraintBottom_toTopOf="@+id/button"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent" />
```

```
<Button
    android:id="@+id/button"
    android:layout_width="203dp"
    android:layout_height="44dp"
    android:layout_marginBottom="232dp"
    android:text="LOGIN"
```

```

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.514"
        app:layout_constraintStart_toStartOf="parent" />

<EditText
    android:id="@+id/editTextTextPersonName"
    android:layout_width="203dp"
    android:layout_height="44dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:hint = "Username"
    app:layout_constraintBottom_toTopOf="@+id/editTextTextPassword"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.863" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA Code

```

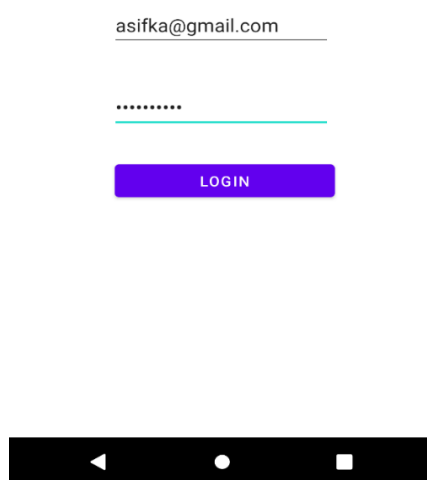
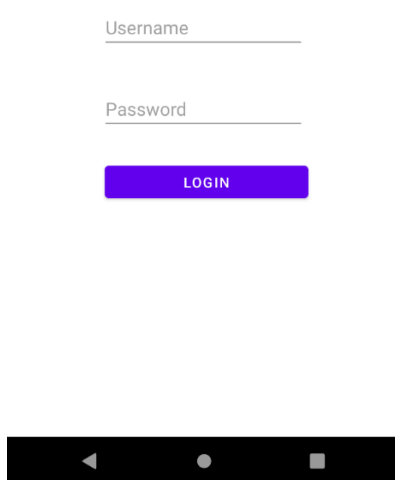
package com.example.login;

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);
    }
}

```

OUTPUT



PROGRAM NO : 2

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

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:id="@+id/textView"
        android:layout_width="216dp"
        android:layout_height="43dp"
        android:layout_marginBottom="40dp"
        app:layout_constraintBottom_toTopOf="@+id/button"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/button"
        android:layout_width="216dp"
        android:layout_height="43dp"
        android:layout_marginBottom="308dp"
        android:text="Submit"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent" />
```

```

<EditText
    android:id="@+id/editTextTextPersonName"
    android:layout_width="216dp"
    android:layout_height="43dp"
    android:ems="10"
    android:hint="Enter a Text"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toTopOf="@+id/textView"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.472"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.876" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

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 {

    Button b1;
    TextView tv;
    EditText t;
    String str;

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

```

```

setContentView(R.layout.activity_main);
b1=(Button) findViewById(R.id.button);
tv=(TextView) findViewById(R.id.textView);
t=(EditText) findViewById(R.id.editTextTextPersonName);
b1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        str=t.getText().toString();
        tv.setText(str);
    }
});
}
}

```

OUTPUT



Hi How are you

Hi How are you

SUBMIT

Enter a Text

SUBMIT



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:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:card_view="http://schemas.android.com/apk/res-auto"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:background="#000">

    <androidx.cardview.widget.CardView
        android:layout_margin="64dp"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        card_view:cardCornerRadius="8dp"
        card_view:cardElevation="8dp"
        android:background="#fff">
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="vertical"
            android:padding="24dp">

            <TextView
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:text="Login"
```

```
        android:textSize="36sp"
        android:textAlignment="center"
        android:layout_gravity="center_horizontal" />

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="22sp"
    android:text="username"
    android:textColor="@color/black"/>
<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="text"
    android:id="@+id/activity_main_usernameEditText" />
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="22sp"
    android:text="password"
    android:textColor="@color/black"/>
<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="textPassword"
    android:id="@+id/activity_main_passwordEditText" />
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/activity_main_loginButton"
    android:text="login"
    android:textSize="22sp"/>
</LinearLayout>
```



```

        </androidx.cardview.widget.CardView>
    </LinearLayout>

```

JAVA Code

```

package com.example.login_toast;

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

public class MainActivity extends AppCompatActivity {

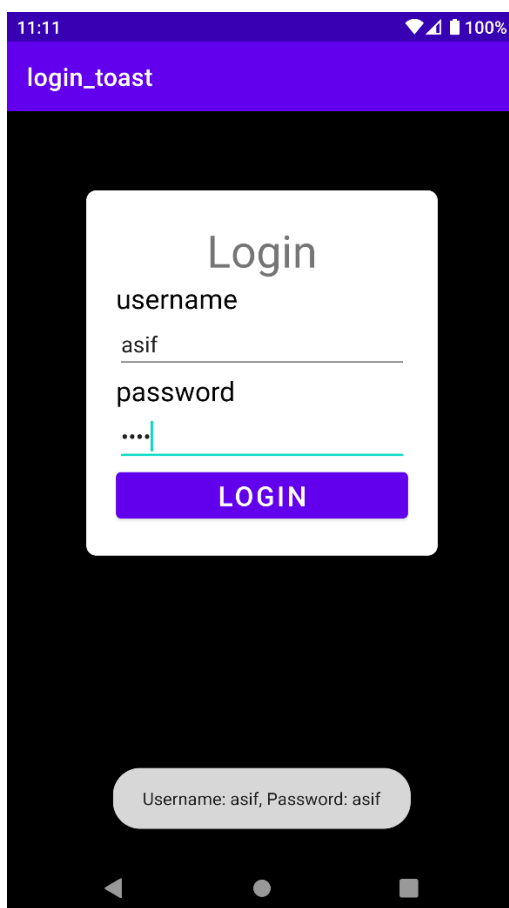
    private EditText usernameEditText;
    private EditText passwordEditText;
    private Button loginButton;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        usernameEditText = findViewById(R.id.activity_main_usernameEditText);
        passwordEditText = findViewById(R.id.activity_main_passwordEditText);
        loginButton = findViewById(R.id.activity_main_loginButton);
        loginButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (usernameEditText.getText().length() > 0 &&
passwordEditText.getText().length() > 0) {
                    String toastMessage = "Username: " + usernameEditText.getText().toString() +
", Password: " + passwordEditText.getText().toString();
                    Toast.makeText(getApplicationContext(), toastMessage,
Toast.LENGTH_SHORT).show();

```

```
    } else {  
        String toastMessage = "Username or Password are not populated";  
        Toast.makeText(getApplicationContext(), toastMessage,  
Toast.LENGTH_SHORT).show();  
    }  
}  
});  
}  
}
```

OUTPUT



PROGRAM NO : 4

Aim: Implementing basic arithmetic operations of a simple calculator

XML Code

```
package com.example.calculator;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    EditText 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_main);
        //for text views
        no1 = findViewById(R.id.first_no);
        no2 = findViewById(R.id.second_no);

        //for button with operations
        add = findViewById(R.id.add);
        mul = findViewById(R.id.mul);
        div = findViewById(R.id.div);
        sub = findViewById(R.id.sub);
        //for equal to button
        equal = findViewById(R.id.equals);
        //for answer field
```

```

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(),"Enter
Numbers",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(),"Enter
Numbers",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(), "Enter
Numbers", 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(), "Enter Numbers",
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(), "Enter Valid Numbers",

```

```

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;
    }
});

}
}

```

JAVA 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=".MainActivity"
    android:padding="20dp"
    android:orientation="vertical"
    android:background="@color/white">

    <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" />
```

```
<EditText
```

```
    android:id="@+id/second_no"
    android:layout_width="102dp"
    android:layout_height="59dp"
    android:ems="10"
    android:hint="Enter" />
```

```
</LinearLayout>
```

```
<LinearLayout
```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:layout_marginBottom="20dp">
```

```
<TextView
```

```

        android:textSize="35sp"
        android:id="@+id/answer"
        android:layout_width="102dp"
        android:layout_height="59dp"
        android:layout_marginHorizontal="50dp"
        android:hint="ans" />

```

```
</LinearLayout>
```

```
<LinearLayout
```

```

    android:orientation="vertical"
    android:layout_marginLeft="250dp"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="30dp">

```

```
<Button
```

```

    android:id="@+id/sub"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="-"
    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" />

```

```
<Button
```



```
android:id="@+id/div"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="/"   
android:textSize="25sp"  
android:layout_marginBottom="16dp" />
```

```
<Button
```

```
    android:id="@+id/mul"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginBottom="16dp"  
    android:text="X"  
    android:textSize="25sp"/>
```

```
<Button
```

```
    android:id="@+id/equals"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginBottom="16dp"  
    android:text="="  
    android:textSize="35sp"/>
```

```
</LinearLayout>
```

```
</LinearLayout>
```

OUTPUT



PROGRAM NO : 5

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=".MainActivity"
    tools:ignore="HardcodedText">

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

    <EditText
        android:id="@+id/lastName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="16dp"
        android:layout_marginTop="16dp"
        android:layout_marginEnd="16dp"
        android:hint="Last Name"
        android:inputType="text" />
```

<EditText

```
    android:id="@+id/email"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="16dp"
    android:hint="Email"
    android:inputType="textEmailAddress" />
```

<EditText

```
    android:id="@+id/password"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="16dp"
    android:hint="Password"
    android:inputType="textPassword" />
```

<LinearLayout

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="8dp"
    android:gravity="end"
    android:orientation="horizontal">
```

<Button

```
    android:id="@+id/cancelButton"
    style="@style/Widget.AppCompat.Button.Borderless"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="4dp"
```

```

        android:text="CANCEL"
        android:textColor="@color/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"
    android:textColor="@android:color/white"
    tools:ignore="ButtonStyle" />

```

```

</LinearLayout>

```

```

</LinearLayout>

```

JAVA Code

```

package com.example.validation;

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

public class MainActivity extends AppCompatActivity {

    // two buttons
    Button bCancel, bProceed;

    // four text fields
    EditText etFirstName, etLastName, etEmail, etPassword;

```

```

// one boolean variable to check whether all the text fields
// are filled by the user, properly or not.
boolean isAllFieldsChecked = false;

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

    // register buttons with their proper IDs.
    bProceed = findViewById(R.id.proceedButton);
    bCancel = findViewById(R.id.cancelButton);

    // register all the EditText fields with their IDs.
    etFirstName = findViewById(R.id.firstName);
    etLastName = findViewById(R.id.lastName);
    etEmail = findViewById(R.id.email);
    etPassword = findViewById(R.id.password);

    // handle the PROCEED button
    bProceed.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

            // store the returned value of the dedicated function which checks
            // whether the entered data is valid or if any fields are left blank.
            isAllFieldsChecked = CheckAllFields();

            // the boolean variable turns to be true then
            // only the user must be proceed to the activity2
            if (isAllFieldsChecked) {
                Intent i = new Intent(MainActivity.this, MainActivity2.class);
                startActivity(i);
            }
        }
    });
}

```

```

    }
});

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

private boolean 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;
    }
}

```

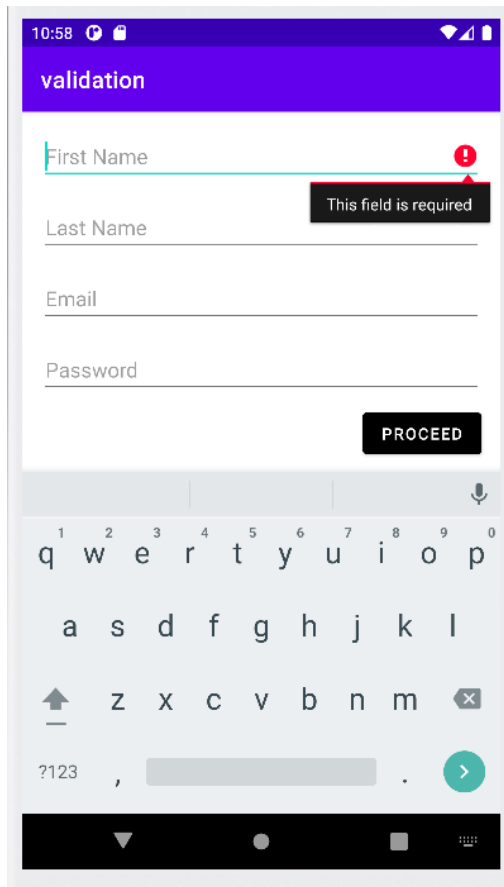
```

    }

    // after all validation return true.
    return true;
}
}

```

OUTPUT



PROGRAM NO : 6

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

JAVA Code**MainActivity.java**

```

package com.example.sharedpref;
import androidx.appcompat.app.ActionBar;
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.EditText;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ActionBar a = getSupportActionBar();
        a.setTitle("Welcome");
        Button sub = findViewById(R.id.sav);
        EditText nam = findViewById(R.id.name);
        EditText email = findViewById(R.id.em);
        EditText phone = findViewById(R.id.ph);
        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i = new Intent(MainActivity.this, add.class);

                String user = nam.getText().toString();

```

```

        i.putExtra("Name", user);
        String E_mail = email.getText().toString();
        i.putExtra("Email", E_mail);
        String Phones = phone.getText().toString();
        i.putExtra("Phone", Phones);
        startActivity(i);
        SharedPreferences sharedPreferences = getSharedPreferences("MySharedPref",
MODE_PRIVATE);
        SharedPreferences.Editor myEdit = sharedPreferences.edit();
        myEdit.putString("name", nam.getText().toString());
        myEdit.putString("email", email.getText().toString());
        myEdit.putString("phone", phone.getText().toString());
        myEdit.apply();
    }
});
}
}

```

add.java

```

package com.example.sharedpref;

import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.widget.TextView;

public class add extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_add);
        ActionBar a = getSupportActionBar();
    }
}

```

```

a.setTitle("Display");

TextView diss = findViewById(R.id.diss);
TextView diss1 = findViewById(R.id.diss1);

Intent i = getIntent();
String name = i.getStringExtra("Name");
String email = i.getStringExtra("Email");
String phone = i.getStringExtra("Phone");

diss.setText("Name : " + name + "\nEmail : " + email + "\nPhone : " + phone);

SharedPreferences sharedPreferences = getSharedPreferences("MySharedPref",
MODE_PRIVATE);

String Name = sharedPreferences.getString("name", "");
String Email = sharedPreferences.getString("email", "");
String Phone = sharedPreferences.getString("phone", "");
diss1.setText("Name : " + Name + "\nEmail : " + Email + "\nPhone : " + Phone);
}
}

```

XML File

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/textView3"

```

```

    android:layout_width="60dp"
    android:layout_height="17dp"
    android:text="Name"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.091"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.222" />
<EditText
    android:id="@+id/name"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.756"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.215" />
<TextView
    android:id="@+id/textView4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Email ID"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.096"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.325" />
<EditText
    android:id="@+id/em"

```

```

android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.761"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.319" />
<TextView
    android:id="@+id/textView5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Phone No."
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.09"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.435" />
<EditText
    android:id="@+id/ph"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"

    android:ems="10"
    android:inputType="number"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.761"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"

```

```

app:layout_constraintVertical_bias="0.431" />
<Button
    android:id="@+id/sav"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="SAVE"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.413"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.562" />
<TextView
    android:id="@+id/textView6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Enter Your Details"
    android:textSize="25sp"

    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.464"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.133" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

activity_add.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=".add">
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Your Details Using Intent"
        android:textStyle="bold"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.146" />
    <TextView
        android:id="@+id/dis"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textStyle="italic"
        android:textSize="15sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.233" />
    <TextView

```

```

        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Your Details Using Shared Preference"
        android:textSize="20sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.771"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.467" />
    <TextView
        android:id="@+id/dis1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="15sp"
        android:textStyle="italic"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.527"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.571" />
</androidx.constraintlayout.widget.ConstraintLayout>

```


OUTPUT



Enter Your Details

Name

Email ID

Phone No.



Your Details Using Intent

Name : asif
Email : asifka@gmail.com
Phone : 9876678999

Your Details Using Shared Preference

Name : asif
Email : asifka@gmail.com
Phone : 9876678999



PROGRAM NO : 7

Aim: Design a simple Calculator using GridLayout and Cascaded LinearLayout

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">

    <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="#323030"
        android:layout_gravity="bottom"
        android:gravity="bottom"
        android:orientation="vertical"
        tools:context=".MainActivity">

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            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="5+5"
    android:textAlignment="textEnd"
    android:textColor="@color/white"
    android:textSize="40dp" />
```

```
<TextView
```

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginEnd="20dp"
    android:text="=10"
    android:textAlignment="textEnd"
    android:textColor="@color/white"
    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="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
```

```

        android:text="9"
        android:textColor="@color/white"
        android:textSize="25dp" />

```

```
<Button
```

```

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

```

```
<Button
```

```

        android:id="@+id/b7"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:text="7"
        android:textColor="@color/white"
        android:textSize="25dp" />

```

```
<Button
```

```

        android:id="@+id/bmult"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        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="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"

```

```
android:text="6"  
android:textColor="@color/white"  
android:textSize="25dp" />
```

```
<Button  
    android:id="@+id/b5"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"  
    android:text="5"  
    android:textColor="@color/white"  
    android:textSize="25dp" />
```

```
<Button  
    android:id="@+id/b4"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"  
    android:text="4"  
    android:textColor="@color/white"  
    android:textSize="25dp" />
```

```
<Button  
    android:id="@+id/bdiv"  
    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/b3"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"
```

```

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

```

```
<Button
```

```

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

```

```
<Button
```

```

        android:id="@+id/b1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        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="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:text="0"

```

```

        android:textColor="@color/white"
        android:textSize="25dp" />
<Button
    android:id="@+id/b."
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:text="."
    android:textColor="@color/white"
    android:textSize="25dp" />
<Button
    android:id="@+id/bequal"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    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>

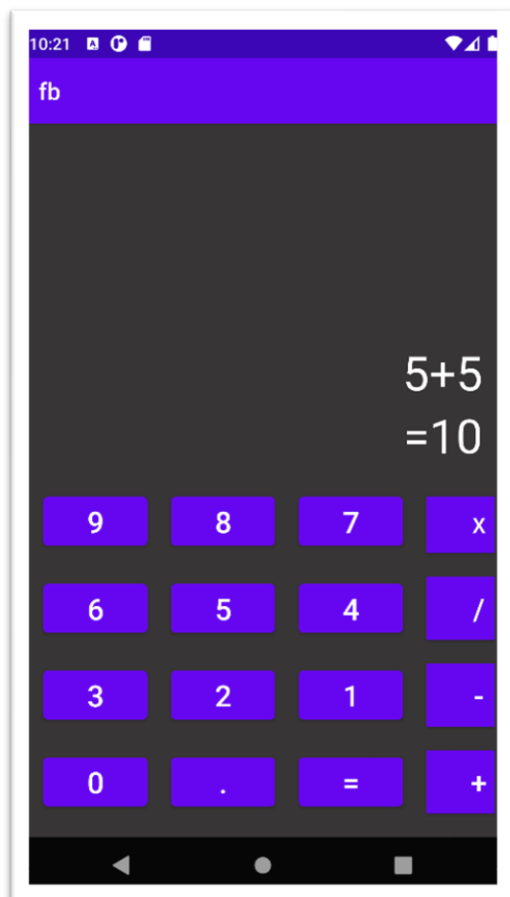
</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA Code

```
package com.example.fb;  
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);  
    }  
}
```

OUTPUT



PROGRAM NO : 8

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=".MainActivity">
    <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="100dp"
            android:orientation="vertical">

            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:fontFamily="@font/fb"
                android:text="facebook"
                android:textSize="36dp"
                android:padding="10dp"
```

```

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

</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"
        android:background="@drawable/bg_box"/>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginBottom="30dp"
        android:background="@drawable/bg_box"
        android:hint="password"
        android:textColorHint="#594F4F"/>

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Log In"
        android:background="@color/design_default_color_primary"
        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_marginRight="75dp"
            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="50dp"
            android:layout_weight="1"
            android:textStyle="bold"
            android:text="?" />
    </LinearLayout>
</LinearLayout>
</LinearLayout>

```

JAVA Code

```

package com.example.calcrifla;

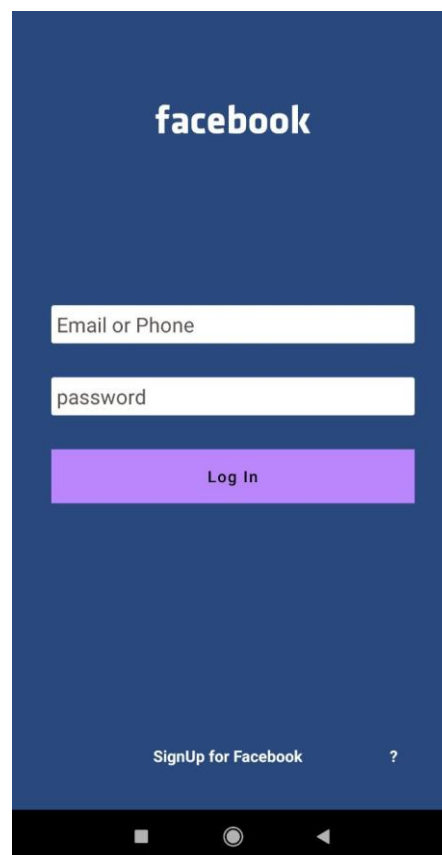
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

```

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

OUTPUT



PROGRAM NO : 9

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/teal_700"
    tools:context=".MainActivity">
    <ImageView
        android:id="@+id/image2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:src="@drawable/image2"
        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/image1"/>
</FrameLayout>
```

JAVA Code

```
package com.example.frame;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
```

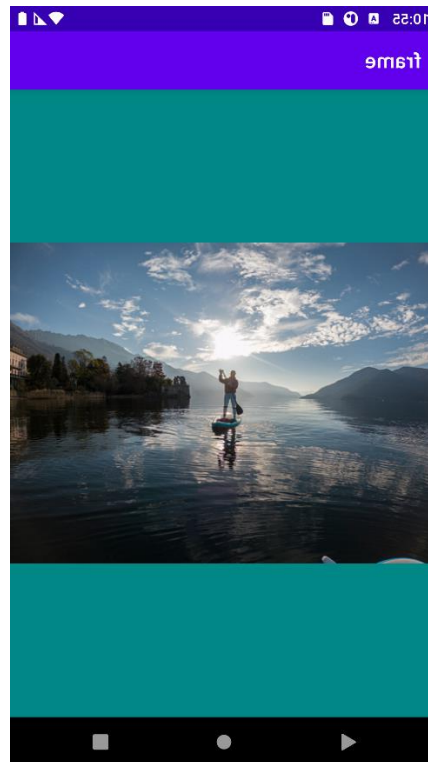
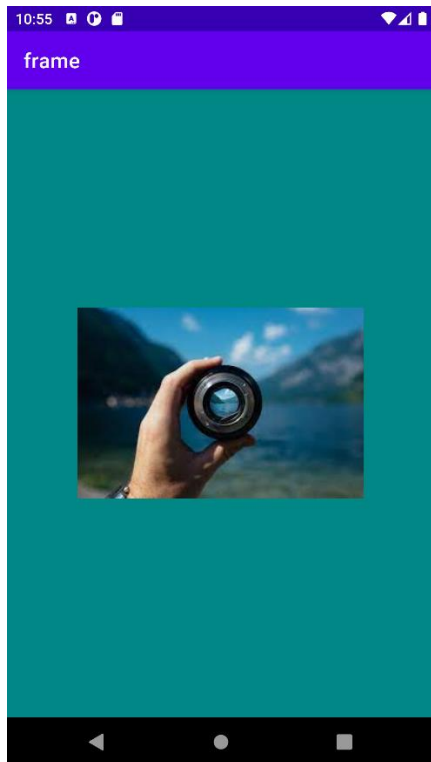
```

import android.view.View;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity implements View.OnClickListener {
    ImageView img1,img2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        img1 =findViewById(R.id.image1);
        img2 =findViewById(R.id.image2);
        img1.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"?>
<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="TextView"
        tools:layout_editor_absoluteX="181dp"
        tools:layout_editor_absoluteY="363dp" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

JAVA Code

```
package com.example.exception;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    TextView textView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```



```
setContentView(R.layout.activity_main);  
try {  
    textView.setText("Welcome");  
}  
catch (Exception e)  
{  
    Toast.makeText(this,e.getMessage(),Toast.LENGTH_SHORT).show();  
}  
}  
}
```

OUTPUT



PROGRAM NO : 11

Aim: Implement Intent to navigate between multiple activities

XML 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"
    android:onClick="callActivity"
    tools:context=".MainActivity">
    <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"

    app: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>

```

activity_intent_act2.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

MainActivity.java

```

package com.example.navigate;

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

public class MainActivity extends AppCompatActivity {
    Button b1;
    @Override protected void onCreate(Bundle savedInstanceState)
    { super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_intent);
    }
    public void callActivity(View view)
    {
        Intent i = new Intent(MainActivity.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);
}
}

```

intent_act2.java

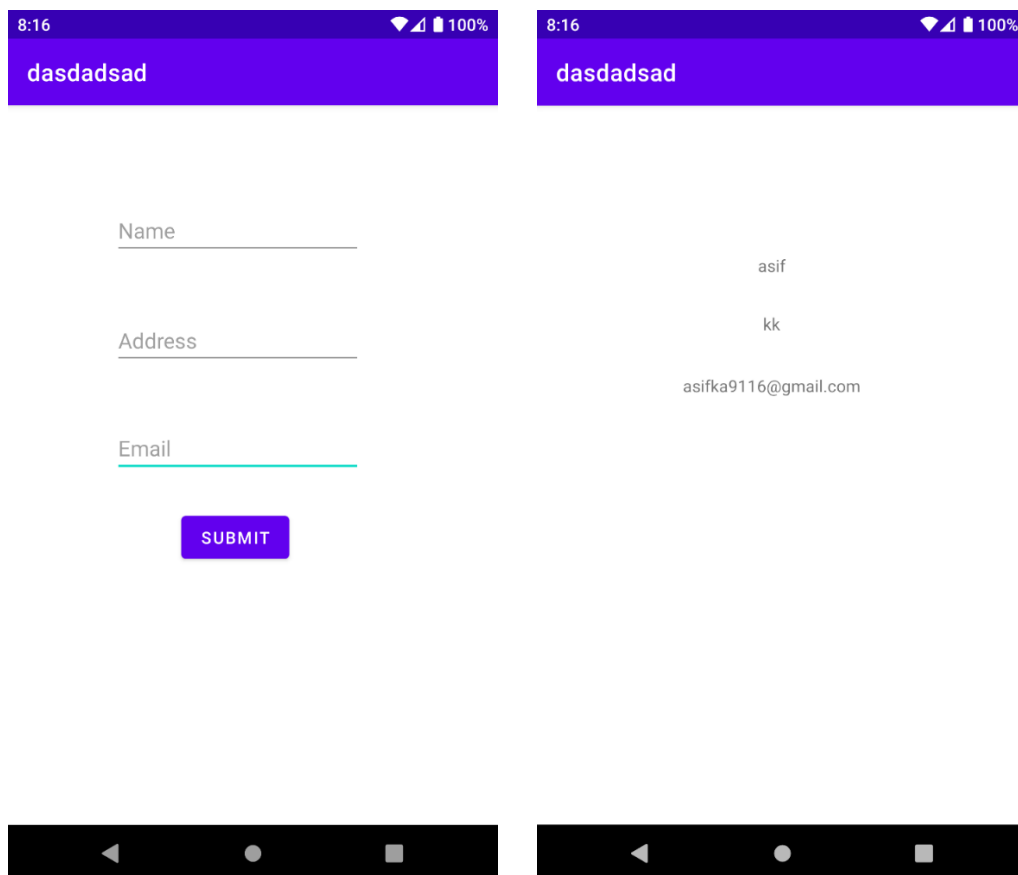
```

package com.example.navigate;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
public class intent_act2 extends AppCompatActivity {
    TextView view11;
    TextView view21;
    TextView view31;
    @Override protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_intent_act2);
        view11 = findViewById(R.id.view1);
        view21 = findViewById(R.id.view2);
        view31 = findViewById(R.id.view3);
        Bundle extras = getIntent().getExtras();
        String value1 = extras.getString("Value1");
        String value2 = extras.getString("Value2");
        String value3 = extras.getString("Value3");
        view11.setText(value1);
        view21.setText(value2);
    }
}

```

```
        view31.setText(value3);  
    }  
}
```

OUTPUT



PROGRAM NO : 12

Aim: Develop an application that works with explicit 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=".MainActivity">
    <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.dis;
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 MainActivity extends AppCompatActivity {
    @Override protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        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



REFER GOOGLE



PROGRAM NO : 13

Aim: Implement Options Menu to navigate to activities

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 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>
```

menu_list.xml

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

```

<item android:id="@+id/item4" android:title="Help"
    tools:ignore="HardcodedText" />
<item android:id="@+id/item5" android:title="LogOut"
    tools:ignore="HardcodedText" />
</menu>

```

JAVA Code

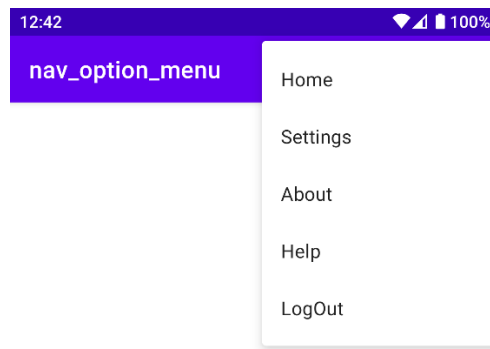
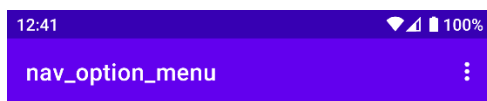
```

package com.example.nav_option_menu;
import android.annotation.SuppressLint;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    @Override protected void onCreate(Bundle savedInstanceState)
    { super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    @Override public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.menu_list, menu);
        return true;
    }
    @SuppressWarnings("NonConstantResourceId")
    @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();

```

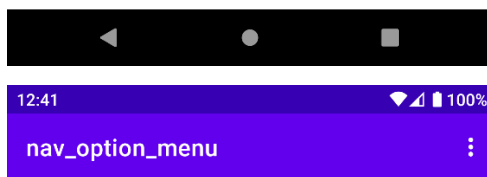
```
        return true;
    case R.id.item3:
        Toast.makeText(getApplicationContext(), "About clicked",
            Toast.LENGTH_SHORT).show();
        return true;
    case R.id.item4:
        Toast.makeText(getApplicationContext(), "Help clicked",
            Toast.LENGTH_SHORT).show();
        return true;
    case R.id.item5:
        Toast.makeText(getApplicationContext(), "Logout clicked",
            Toast.LENGTH_SHORT).show();
        return true;
    default:
        return super.onOptionsItemSelected(item);
    } }
}
```

OUTPUT



Welcome Home..!

Welcome Home..!



Welcome Home..!

Help clicked



PROGRAM NO : 14

Aim: Develop an application that uses ArrayAdapter with ListView

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">

    <ListView
        android:id="@+id/listview"
        android:layout_width="363dp"
        android:layout_height="520dp"
        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.adapterlist_view;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Adapter;
import android.widget.AdapterView;
```

```

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

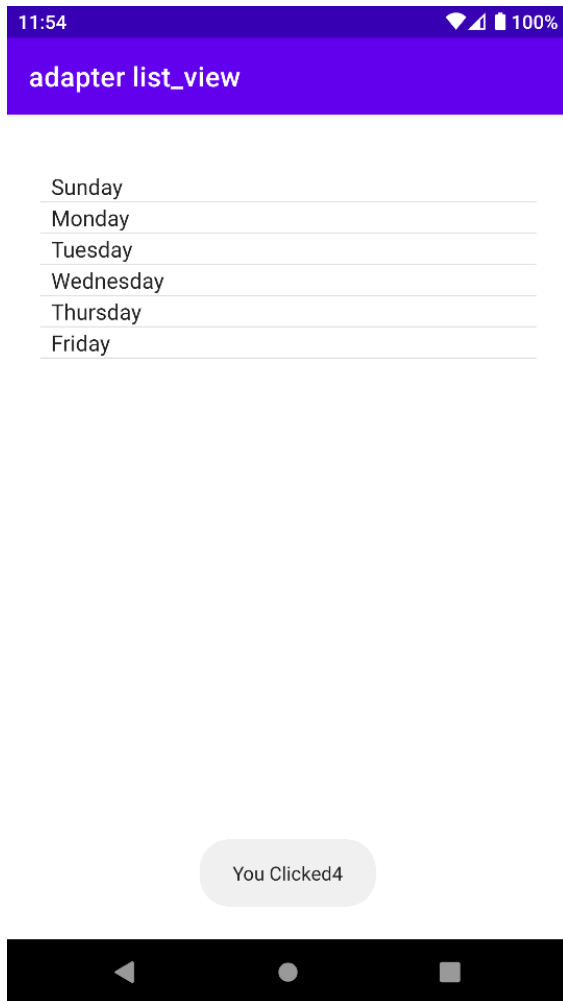
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        l=findViewById(R.id.listView);

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

    @Override
    public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {
        Toast.makeText(this,"You Clicked"+(i+1),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**activity_main.java**

```
<?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="wrap_content"
    android:layout_height="wrap_content"
    tools:context=".MainActivity"
    android:orientation="horizontal">
    <GridView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:numColumns="auto_fit"
        android:id="@+id/gd"
    />
</LinearLayout>
```

imageLayout.xml

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

    <ImageView
```

```

        android:id="@+id/myimage"
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:layout_marginLeft="10dp"
        android:layout_marginTop="10dp" />
    <TextView
        android:id="@+id/mytext"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="5dp"/>
</LinearLayout>

```

JAVA Code

MainActivity.java

```

package com.example.adapter_grid_layout;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.GridView;
import android.widget.ListView;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity
{

    int cars[] = {R.drawable.img1,R.drawable.img2,R.drawable.img3,R.drawable.img4};
    GridView SimpleGrid;

```

```

@Override
protected void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    SimpleGrid = (GridView) findViewById(R.id.gd);

    CustomAdapter customAdapter=new CustomAdapter(getApplicationContext(),cars);
    SimpleGrid.setAdapter(customAdapter);
    SimpleGrid.setOnItemClickListener(new AdapterView.OnItemClickListener()
    {
        @Override
        public void onItemClick(AdapterView<?> adapterView, View view, int i, long l)
        {

            Toast.makeText(MainActivity.this,"You Clicked at "
+(i+1),Toast.LENGTH_LONG).show();

        }
    });
}
}

```

CustomAdapter.java

```

package com.example.adapter_grid_layout;

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

```

```

public class CustomAdapter extends BaseAdapter
{
    Context context;
    int cars[];
    LayoutInflater inflater;
    //contrsuctor class
    public CustomAdapter(Context applicationContext, int[] cars)
    {
        this.context=applicationContext;
        this.cars=cars;
        inflater = (LayoutInflater.from(applicationContext));
    }

    @Override
    public int getCount() {
        return cars.length;
    }

    @Override
    public Object getItem(int i) {
        return null;
    }

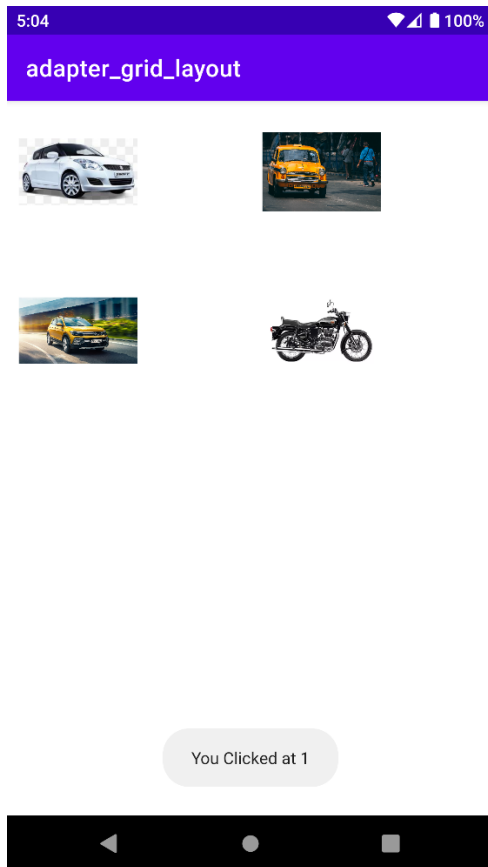
    @Override
    public long getItemId(int i) {
        return 0;
    }

    @Override
    public View getView(int i, View view, ViewGroup viewGroup) {
        view = inflater.inflate(R.layout.imagelayout,null);
        ImageView icon=(ImageView) view.findViewById(R.id.myimage);
        icon.setImageResource(cars[i]);
        return view;
    }
}

```

```
}  
}
```

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"?>
<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:layout_width="200dp"
        android:layout_height="40dp"
        android:layout_marginBottom="8dp"
        android:layout_marginLeft="8dp"
        android:layout_marginRight="8dp"
        android:layout_marginTop="8dp"
        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.spinner;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
```

```

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

public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemSelectedListener {
    String[] country={"India","USA","China","Japan","Other"};

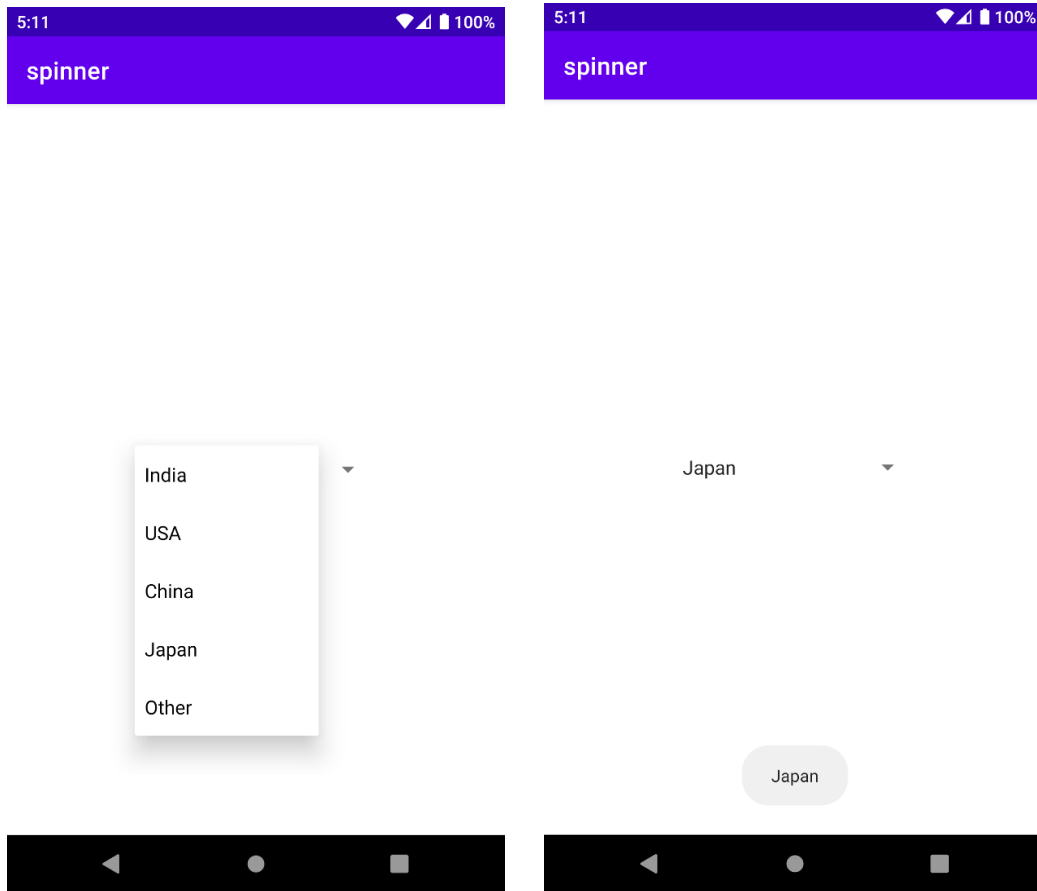
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Spinner spin = (Spinner) findViewById(R.id.spinner);
        spin.setOnItemSelectedListener(this);

        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 onItemSelected(AdapterView<?> parent, View view, int position, long id) {

        Toast.makeText(getApplicationContext(),country[position],
Toast.LENGTH_SHORT).show();
    }
    @Override
    public void onNothingSelected(AdapterView<?> parent) {
    }
}

```

OUTPUT



PROGRAM NO : 17**Aim:** Apply themes via code and manifest file**XML 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: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="300dp"
        android:layout_height="90dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Enter a Name"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.333" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

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

```

colors.xml

```

<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="colorPrimary">#008040</color>
    <color name="color_Primary_dark">#ffccdd</color>
    <color name="color_accent">#004466</color>
    <color name="colo_txt">#ff1a75</color>
</resources>

```

JAVA Code

```

package com.example.themes_c04;
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);  
    }  
}
```

OUTPUT



Hai I am AsiF



PROGRAM NO : 18

Aim: Develop application using Fragments

XML Code**activity_main.xml**

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

    <Button
        android:id="@+id/firstFragment"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="First Fragment"
        android:textColor="@color/white"
        android:textSize="20sp" />

    <Button
        android:id="@+id/secondFragment"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:text="Second Fragment"
        android:textColor="@color/white"
        android:textSize="20sp" />

    <FrameLayout
        android:id="@+id/frameLayout"
```

```

        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_marginTop="10dp" />
</LinearLayout>

```

fragment_first.xml

```

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

    <!--TextView and Button displayed in First Fragment -->
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="100dp"
        android:text="This is First Fragment"
        android:textColor="@color/black"
        android:textSize="25sp" />

    <Button
        android:id="@+id/firstButton"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:layout_marginLeft="20dp"
        android:layout_marginRight="20dp"
        android:text="First Fragment"
        android:textColor="@color/white"
        android:textSize="20sp"
        android:textStyle="bold" />
</RelativeLayout>

```

fragment_second.xml

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

    <!--TextView and Button displayed in Second Fragment -->

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="100dp"
        android:text="This is Second Fragment"
        android:textColor="@color/black"
        android:textSize="25sp" />

    <Button
        android:id="@+id/secondButton"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:layout_marginLeft="20dp"
        android:layout_marginRight="20dp"
        android:text="Second Fragment"
        android:textColor="@color/white"
        android:textSize="20sp"
        android:textStyle="bold" />

</RelativeLayout>
```

JAVA Code

activity_main.java

```
package com.example.frag;

import android.app.Fragment;
import android.app.FragmentManager;
import android.app.FragmentTransaction;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    Button firstFragment, secondFragment;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        // get the reference of Button's
        firstFragment = (Button) findViewById(R.id.firstFragment);
        secondFragment = (Button) findViewById(R.id.secondFragment);

        firstFragment.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                loadFragment(new FirstFragment());
            }
        });
    }
}
```

```

secondFragment.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        loadFragment(new SecondFragment());
    }
});

}

private void loadFragment(Fragment fragment) {
    FragmentManager fm = getFragmentManager();
    FragmentTransaction fragmentTransaction = fm.beginTransaction();
    fragmentTransaction.replace(R.id.frameLayout, fragment);
    fragmentTransaction.commit();
}
}

```

FirstFragment.java

```

package com.example.frag;
import android.app.Fragment;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Toast;

public class FirstFragment extends Fragment {

    View view;
    Button firstButton;
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {

```



```

view = inflater.inflate(R.layout.fragment_first, container, false);
firstButton = (Button) view.findViewById(R.id.firstButton);
firstButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Toast.makeText(getActivity(), "First Fragment", Toast.LENGTH_LONG).show();
    }
});
return view;
}
}

```

SecondFragment.java

```

package com.example.frag;
import android.app.Fragment;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Toast;

public class SecondFragment extends Fragment {

    View view;
    Button secondButton;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        view = inflater.inflate(R.layout.fragment_second, container, false);
        secondButton = (Button) view.findViewById(R.id.secondButton);
        secondButton.setOnClickListener(new View.OnClickListener() {

```

```

@Override
public void onClick(View v) {

    Toast.makeText(getActivity(), "Second Fragment",
Toast.LENGTH_LONG).show();

    }

});

return view;

}

}

```

OUTPUT



This is First Fragment

FIRST FRAGMENT





This is Second Fragment



PROGRAM NO : 19**Aim:** Implement Navigation drawer**XML Code****activity_main.xml**

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.drawerlayout.widget.DrawerLayout
    android:id="@+id/drawer"
    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">
    <androidx.appcompat.widget.LinearLayoutCompat
        android:layout_width="match_parent"
        android:layout_height="match_parent">
        <TextView
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:id="@+id/textview"
            android:text="Welcome"
            android:textSize="30dp"/>
        </androidx.appcompat.widget.LinearLayoutCompat>

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

```

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

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">navigation_c04</string>
    <string name="nav_open">Open</string>
    <string name="nav_close">Close</string>
</resources>
```

JAVA Code

```
package com.example.navigation_c04;

import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.drawerlayout.widget.DrawerLayout;
```

```

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

import com.google.android.material.navigation.NavigationBarView;
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);
    }

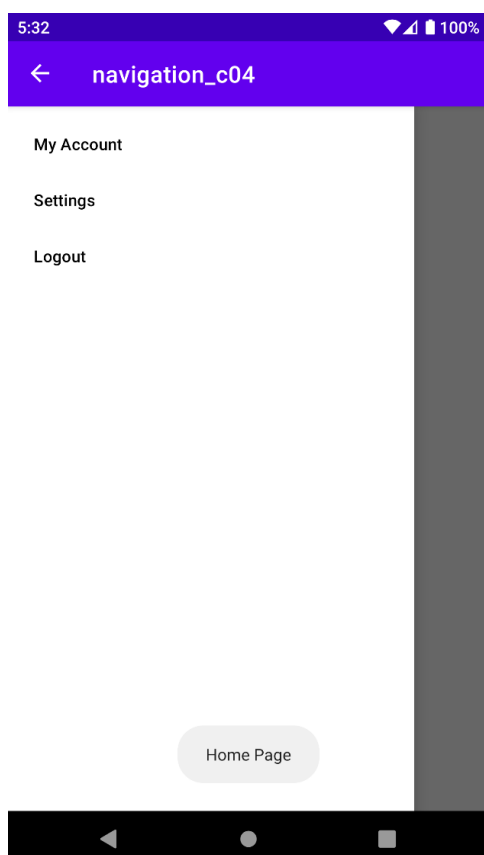
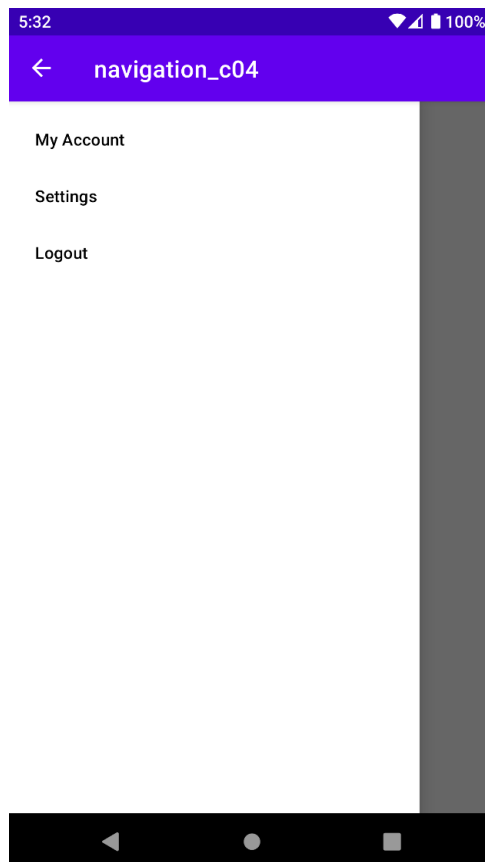
    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item){
        if (actionBarDrawerToggle.onOptionsItemSelected(item)){
            return true;
        }
    }

```

```
        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 Page", 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;
    }
}
```

OUTPUT



PROGRAM NO : 20

Aim: Program to implement activity life cycle

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/txt"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginTop="20dp"

        android:textSize="34dp" />

</RelativeLayout>
```

JAVA Code

```
package com.example.activitylifecycle;

import android.app.Activity;

import android.os.Bundle;

import android.util.Log;
```

```

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

{

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

Log.d("lifecycle","onCreate invoked"); } @Override

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

Log.d("lifecycle","onStart invoked"); } @Override

protected void onResume() { super.onResume(); Log.d("lifecycle","onResume
invoked"); } @Override

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

Log.d("lifecycle","onPause invoked"); } @Override

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

Log.d("lifecycle","onStop invoked"); } @Override

protected void onRestart() { super.onRestart(); Log.d("lifecycle","onRestart invoked"); }
@Override

protected void onDestroy() { super.onDestroy(); Log.d("lifecycle","onDestroy
invoked"); } }

```

OUTPUT

```

2022-02-24 18:46:25.618 8920-8943/com.example.lifecycle D/LibEGL: loaded /vendor/lib/egl/libegl_emulation.so
2022-02-24 18:46:25.684 8920-8943/com.example.lifecycle D/LibEGL: loaded /vendor/lib/egl/libGLESv1_CM_emulation.so
2022-02-24 18:46:25.684 8920-8943/com.example.lifecycle D/LibEGL: loaded /vendor/lib/egl/libGLESv2_emulation.so
2022-02-24 18:46:25.938 8920-8920/com.example.lifecycle D/Lifecycle: onCreate invoked
2022-02-24 18:46:25.977 8920-8920/com.example.lifecycle D/Lifecycle: onStart invoked
2022-02-24 18:46:25.985 8920-8920/com.example.lifecycle D/Lifecycle: onResume invoked
2022-02-24 18:46:26.078 8920-8943/com.example.lifecycle D/HostConnection: HostConnection::get() New Host Connection established 0xe87df9ab, tid 8943
2022-02-24 18:46:26.084 8920-8943/com.example.lifecycle D/HostConnection: HostComposition ext ANDROID_EMU_CHECKSUM_HELPER_v1 ANDROID_EMU_native_sync_v2 ANDROID_
2022-02-24 18:46:26.094 8920-8943/com.example.lifecycle D/HostConnection: Failed to choose config with EGL_SWAP_BEHAVIOR_PRESERVED, retrying without...
2022-02-24 18:46:26.295 8920-8943/com.example.lifecycle D/EGL_emulation: eglCreateContext: 0xe87df910: maj 2 min 0 rcv 2
2022-02-24 18:46:26.304 8920-8943/com.example.lifecycle D/EGL_emulation: eglMakeCurrent: 0xe87df910: ver 2 0 (tinfo 0xe88b1f30) (first time)
2022-02-24 18:46:26.317 8920-8943/com.example.lifecycle I/Gralloc: wagger 4.x is not supported
2022-02-24 18:46:26.318 8920-8943/com.example.lifecycle D/HostConnection: createUnique: call
2022-02-24 18:46:26.328 8920-8943/com.example.lifecycle D/HostConnection: HostConnection::get() New Host Connection established 0xe87df93b, tid 8941
2022-02-24 18:46:26.331 8920-8943/com.example.lifecycle D/goldfish-address-space: allocate: Ask for block of size 0x180
2022-02-24 18:46:26.332 8920-8943/com.example.lifecycle D/goldfish-address-space: allocate: ioctl allocate returned offset 0x3f3ffe000 size 0x2000
2022-02-24 18:46:26.343 8920-8943/com.example.lifecycle D/HostConnection: HostComposition ext ANDROID_EMU_CHECKSUM_HELPER_v1 ANDROID_EMU_native_sync_v2 ANDROID_
2022-02-24 18:46:26.551 8920-8932/com.example.lifecycle I/ample.lifecycle: Background young concurrent copying GC freed 19135(123388) AllocSpace objects, 0(0B)
2022-02-24 18:46:26.652 8920-8934/com.example.lifecycle W/System: A resource failed to call close.
2022-02-24 18:46:58.113 8920-8920/com.example.lifecycle D/Lifecycle: onPause invoked
2022-02-24 18:46:59.121 8920-8920/com.example.lifecycle D/Lifecycle: onStop invoked
2022-02-24 18:46:59.132 8920-8920/com.example.lifecycle D/Lifecycle: onDestroy invoked
2022-02-24 18:47:03.281 8920-8934/com.example.lifecycle W/System: A resource failed to call release.

```

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

Mainactivity.java

```

package com.example.dboperationcrud;

import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.app.AlertDialog;
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, "New Entry Inserted",
Toast.LENGTH_SHORT).show();

 else

 Toast.makeText(MainActivity.this, "Unable to Insert",
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, "Entry 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, "Entry 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("Details");
    builder.setMessage(buffer.toString());
    builder.show();
    }
    });
}
}

```

DBhelper.java

```

package com.example.dboperationcrud;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

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

12:07    100%

dboperationcrud

Please enter the details below

Name

Contact




Date of birth

INSERT NEW DATA

UPDATE DATA

DELETE EXISTING DATA

VIEW DATA

12:08    100%

dboperationcrud

Please enter the details below

Asif K A

9874566544

27-09-1998




INSERT NEW DATA

UPDATE DATA

DELETE EXISTING DATA

VIEW DATA

New Entry Inserted

12:08    100%

dboperationcrud

Please enter the details below

Asif K A

9874566544




27-09-1998

Details

Name:Asif K A
Contact:9874566544
Date of Birth:27-09-1998

DELETE EXISTING DATA

VIEW DATA

12:09    100%

dboperationcrud

Please enter the details below

Asif K A

9495170000

27-09-1998

INSERT NEW DATA

UPDATE DATA

DELETE EXISTING DATA

VIEW DATA

Entry Updated

