

## Program no: 01

**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"?>

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="20dp"
    android:background="#fff"
    tools:context=".login">

    <TextView
        android:id="@+id/logo_name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:fontFamily="@font/bungee"
        android:text="HELLO THERE, WELCOME BACK"
        android:textColor="@color/black"
        android:textSize="40sp"
        android:transitionName="logo_text" />
```

```
<TextView
```

```
    android:id="@+id/sig"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:fontFamily="casual"  
    android:transitionName="title"  
    android:text="Sign in to continue"  
    android:textSize="18sp"/>
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_marginTop="20dp"  
    android:layout_marginBottom="20dp"  
    android:orientation="vertical">
```

```
<com.google.android.material.textfield.TextInputLayout
```

```
    android:id="@+id/username"  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:hint="Username"  
    android:transitionName="nme"  
    style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox">
```

```
<com.google.android.material.textfield.TextInputEditText
```

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

```

        android:layout_height="wrap_content"

        android:inputType="text" />
</com.google.android.material.textfield.TextInputLayout>

<com.google.android.material.textfield.TextInputLayout
    android:id="@+id/password"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Password"
    app:passwordToggleEnabled="true"
    app:passwordToggleTint="@color/black"
    style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox">
    <com.google.android.material.textfield.TextInputEditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="textPassword"/>
</com.google.android.material.textfield.TextInputLayout>

<Button
    android:id="@+id/fp"
    android:layout_width="200dp"
    android:layout_height="30dp"
    android:textSize="9dp"
    android:background="#00000000"
    android:text="Forget password?"
    android:textColor="@color/black"
    android:layout_gravity="right"

```

```

    android:elevation="0dp"
    android:layout_margin="5dp"/>

```

```

<Button
    android:id="@+id/login_button"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="5dp"
    android:layout_marginBottom="5dp"
    android:backgroundTint="#000"
    android:fontFamily="@font/audiowide"
    android:text="Sign-In"
    android:textColor="#fff"
    android:transitionName="bbtn" />

```

```

<Button
    android:id="@+id/register_link"
    android:layout_width="200dp"
    android:layout_height="wrap_content"
    android:background="#00000000"
    android:text="New User? SIGN UP now!"
    android:layout_gravity="right"
    android:elevation="0dp"
    android:layout_margin="5dp"/>

```

```

</LinearLayout>

```

```

</LinearLayout>

```

**Java Code:**

```
package com.example.todolist;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.content.ContextCompat;
import android.app.ActivityOptions;
import android.content.Intent;
import android.content.SharedPreferences;
import android.content.pm.PackageManager;
import android.os.AsyncTask;
import android.os.Build;
import android.os.Bundle;
import android.util.Pair;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;
import com.google.android.material.textfield.TextInputLayout;
import org.json.JSONObject;

public class login extends AppCompatActivity {
    TextInputLayout usr,psd;
    TextView ln,ls;
    Button btn_login,reg,forget;
    String strusername,strpassword, baseUrl= "";
```

```
SharedPreferences sp;
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState) {
```

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

```
    setContentView(R.layout.activity_login);
```

```
    ln=findViewById(R.id.logo_name);
```

```
    ls=findViewById(R.id.sig);
```

```
    usr=(TextInputLayout)findViewById(R.id.username);
```

```
    psd=(TextInputLayout)findViewById(R.id.password);
```

```
    forget=findViewById(R.id.fp);
```

```
    btn_login=findViewById(R.id.login_button);
```

```
    reg=findViewById(R.id.register_link);
```

```
    sp = getSharedPreferences("login_daa", MODE_PRIVATE);
```

```
    getSupportActionBar().hide();
```

```
    /*forget.setOnClickListener(new View.OnClickListener() {
```

```
        @Override
```

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

```
            Intent j=new Intent(getApplicationContext(),forgot_password.class);
```

```
            startActivity(j);
```

```
        }
```

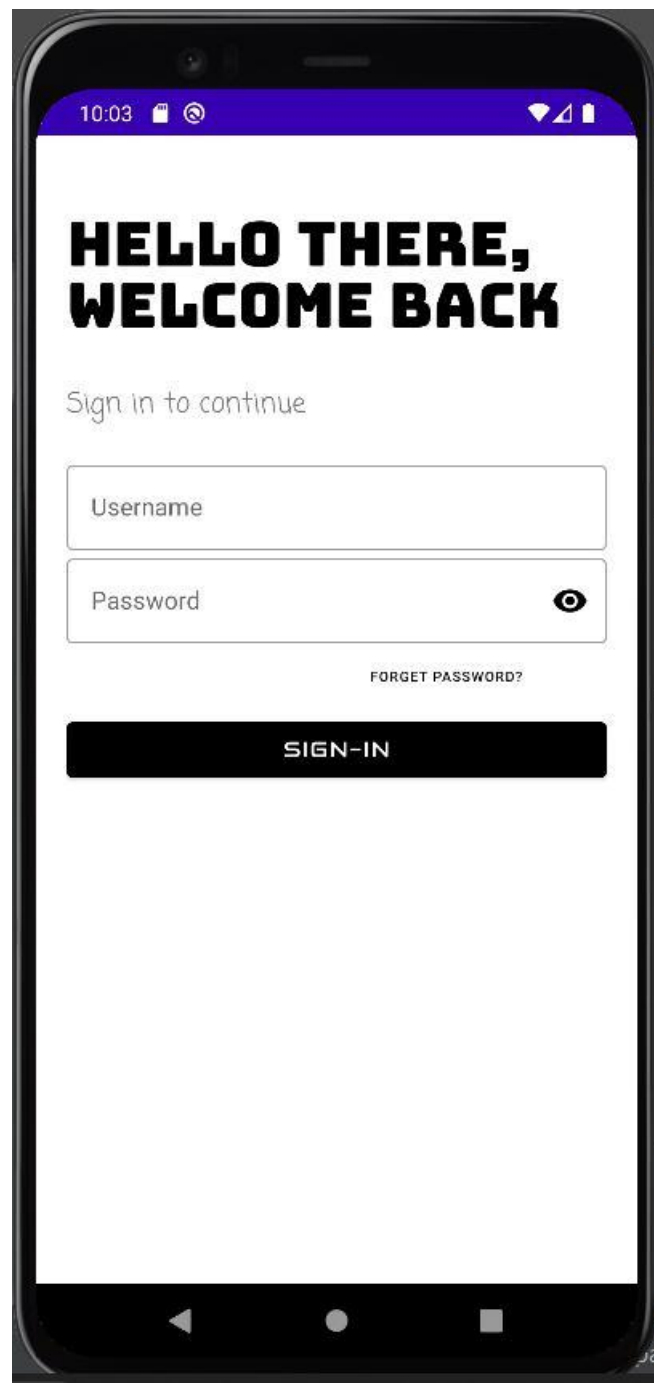
```
    });*/
```

```
btn_login.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        strusername=usr.getText().getText().toString().trim();  
        strpassword=psd.getText().getText().toString().trim();  
  
        if (strusername.equals(""))  
        {  
            Toast.makeText(login.this,"Enter username",Toast.LENGTH_LONG).show();  
        }  
        else if(strpassword.equals(""))  
        {  
            Toast.makeText(login.this,"Enter password", Toast.LENGTH_LONG).show();  
        }  
        else  
        {  
            //new checkPermission().execute();  
        }  
    }  
});  
}
```

```
}
```

**Output:**





**Program no: 02**

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

**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="#FFD24C"
```

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

```
    android:orientation="vertical"
```

```
    tools:context=".Edit2Text">
```

```
<EditText
```

```
    android:id="@+id/edt1"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:hint="Enter name here.." />
```

```
<Button  
    android:id="@+id/btn1"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginTop="20dp"  
    android:text="Add" />
```

```
<TextView  
    android:id="@+id/txt2"  
    android:layout_width="match_parent"  
    android:layout_height="50dp"  
    android:layout_marginTop="20dp"  
    android:gravity="center"  
    android:textSize="20dp" />
```

```
</LinearLayout>
```

### **Java Code:**

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

```
import android.widget.EditText;

import android.widget.TextView;


public class Edit2Text extends AppCompatActivity {

    Button b1;

    EditText e1;

    TextView t1;


    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_edit2_text);


        e1 = findViewById(R.id.edt1);

        b1 = findViewById(R.id.btn1);

        t1 = findViewById(R.id.txt2);


        b1.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                String value = e1.getText().toString();

                t1.setText(String.valueOf(value));

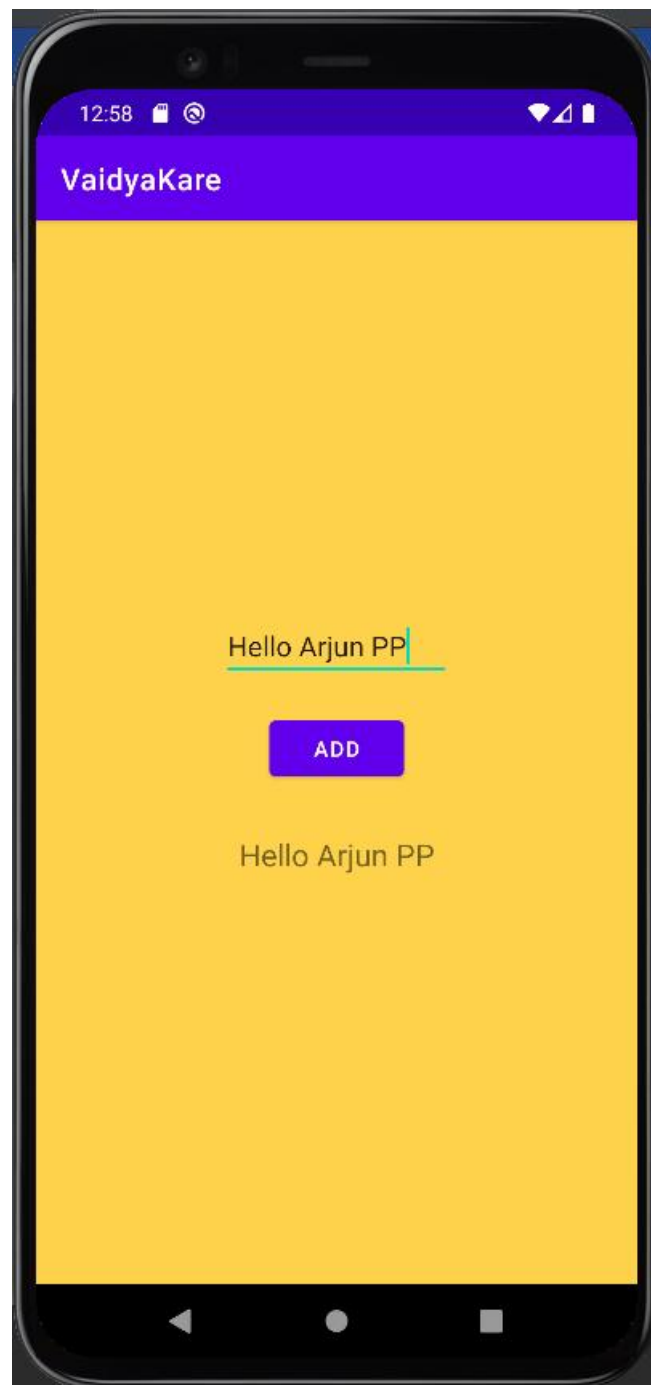
            }

        });

    }

}
```

**Output:**



**Program no: 03**

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

**XML Code:**

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:background="@drawable/login"
    android:layout_height="match_parent"
    tools:context=".Login">

    <TextView
        android:id="@+id/txtlgn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:fontFamily="@font/archivo_black"
        android:text="Login"
        android:textSize="50dp"/>
```

```
<LinearLayout
```

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

```
    android:layout_height="wrap_content"
```

```
    android:orientation="vertical"
```

```
    android:layout_marginLeft="20dp"
```

```
    android:layout_marginRight="20dp">
```

```
<com.google.android.material.textfield.TextInputLayout
```

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

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

```
    android:layout_height="wrap_content"
```

```
    android:hint="Username"
```

```
    style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox">
```

```
<com.google.android.material.textfield.TextInputEditText
```

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

```
    android:layout_height="wrap_content"
```

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

```
</com.google.android.material.textfield.TextInputLayout>
```

```
<com.google.android.material.textfield.TextInputLayout
```

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

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

```
    android:layout_height="wrap_content"
```

```
    android:hint="Password"
```

```
    style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox">
```

```
<com.google.android.material.textfield.TextInputEditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="text"/>

</com.google.android.material.textfield.TextInputLayout>

</LinearLayout>

<Button
    android:id="@+id/btnlgn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Login"/>

</LinearLayout>
```

### Java Code:

```
package com.example.vaidyakare;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
```

```
import android.os.Bundle;

import android.util.Log;

import android.view.View;

import android.widget.Button;


import android.widget.EditText;

import android.widget.TextView;


import android.widget.Toast;


import com.google.android.material.textfield.TextInputLayout;


public class Login extends AppCompatActivity {

    TextView t1;

    TextInputLayout e1, e2;

    Button b1;


    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_login);


        t1 = findViewById(R.id.txtlgn);

        e1 = findViewById(R.id.edturn);

        e2 = findViewById(R.id.edtpswd);

        b1 = findViewById(R.id.btnlgn);
```



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

    @Override

    public void onClick(View v) {

        String username = e1.getText().toString().trim();

        String password = e2.getText().toString().trim();

        if (username.equals("")){

            Toast.makeText(Login.this, "Enter your username",
Toast.LENGTH_SHORT).show();

        }

        else if(password.equals("")){

            Toast.makeText(Login.this, "Enter your password",
Toast.LENGTH_SHORT).show();

        }

        else{

            Intent j = new Intent(Login.this,Dashboard.class);

            if(username.equals("admin")){

                j.putExtra("usrn",username);

                startActivity(j);
```

```
}else if(username.equals("patient")){

    j.putExtra("usrn",username);
    startActivity(j);

}else{

    Toast.makeText(Login.this, "Invalid user", Toast.LENGTH_SHORT).show();

}

}

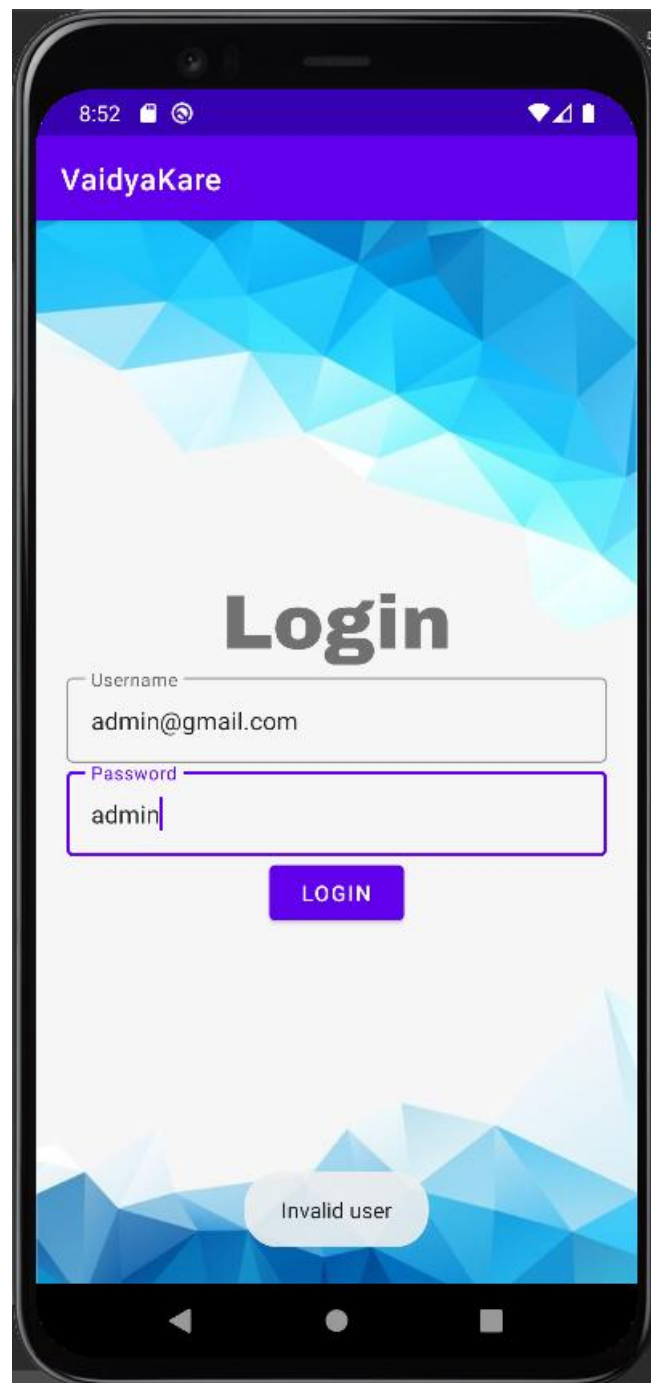
}

});

}

}
```

**Output:**



**Program no: 04**

**Aim:** Implementing basic arithmetic operations of a simple calculator

**XML Code:**

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".simpleCal"
    android:padding="20dp"
    android:orientation="vertical"
    android:background="@color/bg">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="CALCULATOR"
        android:textSize="25sp"
        android:layout_marginBottom="16dp"
        android:textColor="@android:color/black" />

    <LinearLayout
```

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

```
<EditText
    android:id="@+id/first_no"
    android:layout_width="102dp"
    android:layout_height="59dp"
    android:ems="10"
    android:layout_marginHorizontal="50dp"
    android:hint="Enter no1" />
```

```
<EditText
    android:id="@+id/second_no"
    android:layout_width="102dp"
    android:layout_height="59dp"
    android:ems="10"
    android:hint="Enter no2" />
```

```
</LinearLayout>
```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center"
    android:layout_marginBottom="20dp">
```

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

```
</LinearLayout>
```

```
<LinearLayout  
    android:orientation="vertical"  
    android:layout_marginLeft="50dp"  
    android:layout_width="230dp"  
    android:layout_height="wrap_content"  
    android:layout_marginBottom="30dp">
```

```
<LinearLayout  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:orientation="horizontal">
```

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

```
android:text="-"  
android:layout_marginRight="50dp"  
android:textSize="25sp"  
android:layout_marginBottom="16dp" />
```

```
<Button
```

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

```
</LinearLayout>
```

```
<LinearLayout
```

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

```
<Button
```

```
    android:id="@+id/div"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginRight="50dp"
```

```
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"/>
```

```
</LinearLayout>
```

```
<Button
```

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

```
</LinearLayout>
```

```
</LinearLayout>
```



**Java Code:**

```
package com.example.vaidyakare;

import androidx.appcompat.app.AppCompatActivity;

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

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

public class simpleCal extends AppCompatActivity {

    EditText no1, no2;

    Button add, mul, div, sub, equal;

    TextView answer;

    double ans = 0;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_simple_cal);

        // 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);

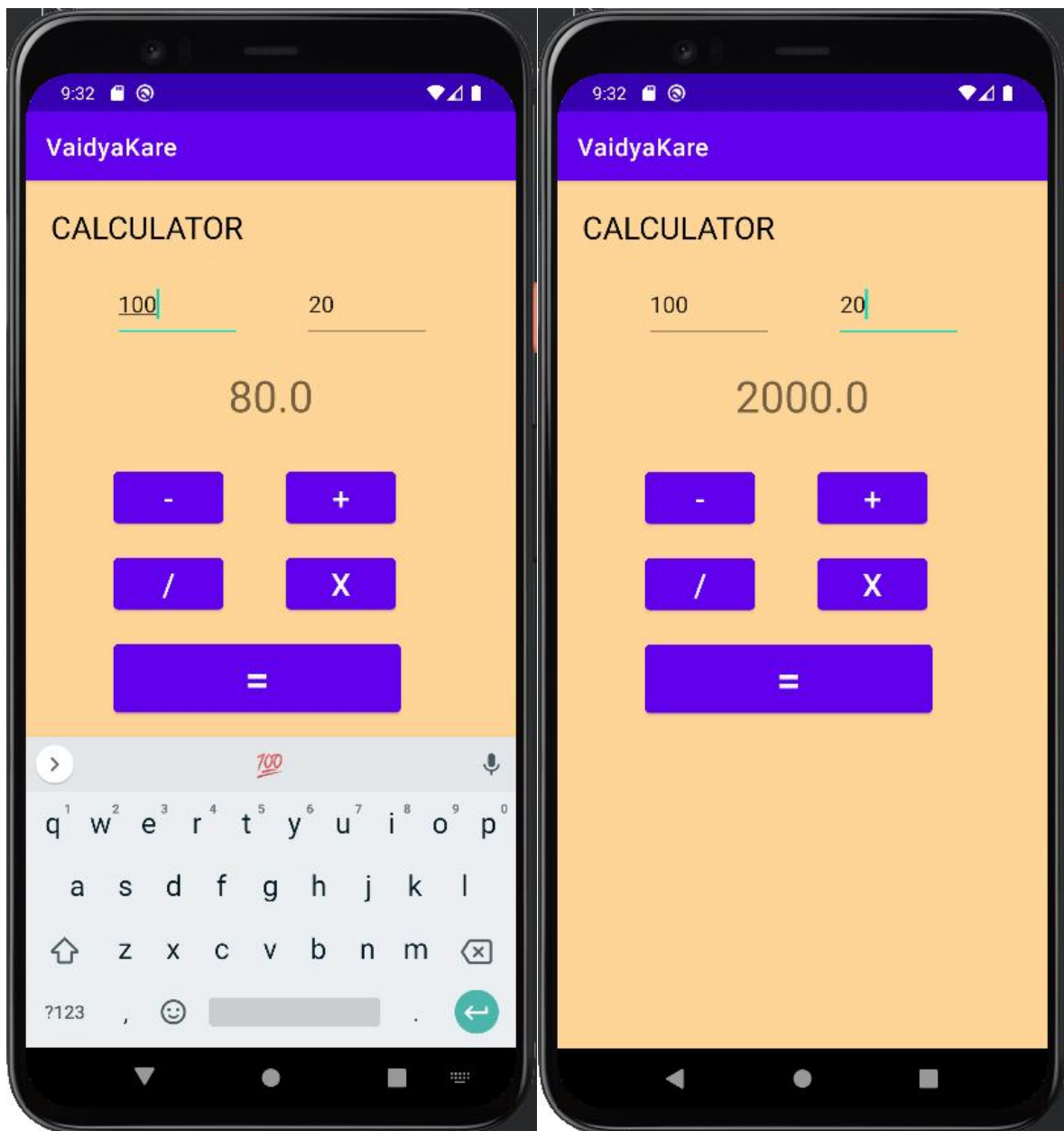
        ans = 0;

    }

});

}

}
```

**Output:**

**Program no: 05**

**Aim:** Implement validations on various UI controls

**XML Code:**

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

<LinearLayout

    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".Ui_validation"
    tools:ignore="HardcodedText">

    <EditText

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

<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.vaidyakare;

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

public class Ui_validation extends AppCompatActivity {

    // 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_ui_validation);


    // 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(Ui_validation.this, Dashboard.class);
            startActivity(i);
        }
    }
});

// if user presses the cancel button then close the
// application or the particular activity.
bCancel.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Ui_validation.this.finish();
        System.exit(0);
    }
});
}

// function which checks all the text fields
// are filled or not by the user.
// when user clicks on the PROCEED button
// this function is triggered.
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:**

The image displays four sequential screenshots of the VaidyaKare mobile application's registration form, illustrating different validation states:

- Screenshot 1 (9:49):** The form is empty. A red exclamation mark icon is positioned above the "First Name" field, and a black tooltip with the text "This field is required" is shown next to it.
- Screenshot 2 (9:50):** The "First Name" field is filled with "Arjun" and the "PP" field is filled with "PP". The "Email" field has a red exclamation mark icon above it, and a black tooltip with the text "Email is required" is shown next to it.
- Screenshot 3 (9:52):** The "First Name" field is filled with "Arjun", the "PP" field is filled with "PP", and the "Email" field is filled with "Arjun@gmail.com". The "Password" field has a red exclamation mark icon above it, and a black tooltip with the text "Password is required" is shown next to it.
- Screenshot 4 (9:52):** The "First Name" field is filled with "Arjun", the "PP" field is filled with "PP", and the "Email" field is filled with "Arjun@gmail.com". The "Password" field contains four dots and has a red exclamation mark icon above it. A black tooltip with the text "Password must be minimum 8 characters" is shown next to it.

## Program no: 06

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

### 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=".SPandIntent">

    <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>

```

## Sp2.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=".Sp2">

    <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>
```

## Java Code:

```

package com.example.vaidyakare;

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;

import android.widget.TextView;


public class SPandIntent extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_spand_intent);

        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(SPandIntent.this, Sp2.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();

    }

});

}

}

```

## **Sp2.java**

```

package com.example.vaidyakare;

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 Sp2 extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_sp2);


        ActionBar a = getSupportActionBar();

        a.setTitle("Display");

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

        TextView diss1 = findViewById(R.id.dis1);


        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", "");

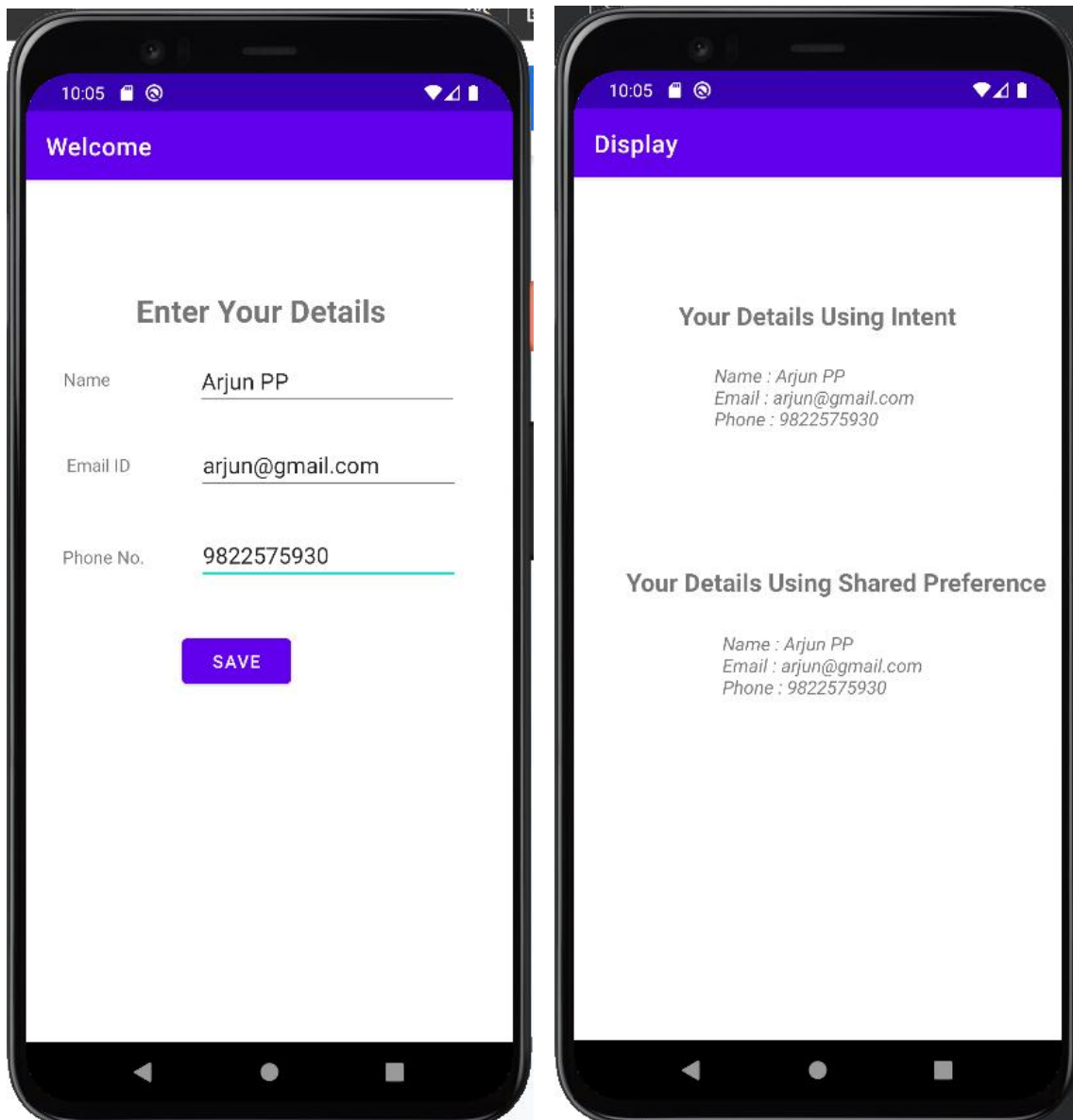
        diss1.setText("Name : " + Name + "\nEmail : " + Email + "\nPhone : " + Phone);

    }

}

```



**Output:**

**Program no: 07**

**Aim:** Design a simple Calculator using GridLayout and Cascaded LinearLayout

**XML Code:**

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#00000000"
    android:layout_gravity="bottom"
    android:gravity="bottom"
    android:orientation="vertical"
    tools:context=".Output">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_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="18+7"  
    android:textAlignment="textEnd"  
    android:textColor="@color/black"  
    android:textSize="40dp" />
```

```
<TextView  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:layout_marginEnd="20dp"  
    android:text="=25"  
    android:textAlignment="textEnd"  
    android:textColor="@color/black"  
    android:textSize="40dp" />
```

```
</LinearLayout>
```

```
<GridLayout  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"
```

```

android:layout_weight="1"
android:columnCount="4"
android:gravity="bottom"
android:rowCount="4">

```

```

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

```

```

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

```

```

<Button

```

```

android:id="@+id/b7"
android:layout_width="50dp"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
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="50dp"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="6"
android:textColor="@color/white"

```

```
android:textSize="25dp" />
```

```
<Button
```

```
    android:id="@+id/b5"  
    android:layout_width="50dp"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"  
    android:background="@drawable/bg_button"  
    android:text="5"  
    android:textColor="@color/white"  
    android:textSize="25dp" />
```

```
<Button
```

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

```
<Button
```

```
    android:id="@+id/bdiv"  
    android:layout_height="wrap_content"  
    android:layout_margin="10dp"  
    android:background="#F86605"
```

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

<Button

```
android:id="@+id/b3"
android:layout_width="50dp"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="3"
android:textColor="@color/white"
android:textSize="25dp" />
```

<Button

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

<Button

```
android:id="@+id/b1"
android:layout_width="50dp"
```

```

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

```

<Button

```

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

```

<Button

```

android:id="@+id/b0"
android:layout_width="50dp"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:background="@drawable/bg_button"
android:text="0"
android:textColor="@color/white"
android:textSize="25dp" />

```



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

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

```
<Button
    android:id="@+id/bplus"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#F86605"
    android:text="+" />
```

```

        android:textColor="@color/white"

        android:textSize="25dp" />
    </GridLayout>
</LinearLayout>

</LinearLayout>

```

### Java Code:

```

package com.example.edit2text;

import androidx.appcompat.app.AppCompatActivity;

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

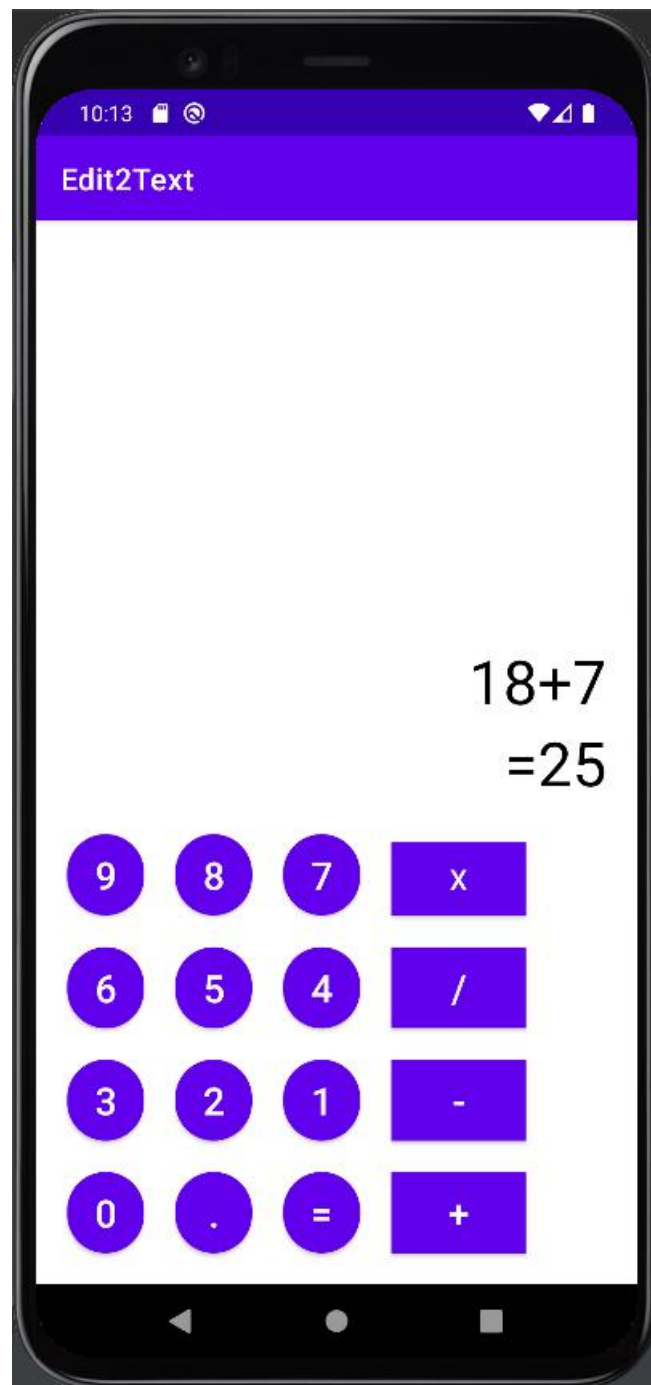
public class Output extends AppCompatActivity {
    TextView t1;

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

    }
}

```

**Output:**



## Program no: 08

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

### XML Code:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/white"
    tools:context=".facebook">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:background="#29487D"
        android:gravity="center|top"
        android:orientation="vertical">

        <LinearLayout
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="70dp"
            android:layout_marginBottom="100dp"
            android:orientation="vertical">
```

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

```
</LinearLayout>
```

```
<LinearLayout  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"  
    android:padding="15dp"  
    android:orientation="vertical"  
    android:layout_margin="20dp">  
    <EditText  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"  
        android:hint="Email or Phone"  
        android:layout_marginBottom="30dp"  
        android:textColorHint="#594F4F"/>
```

```
<EditText  
    android:layout_width="match_parent"  
    android:layout_height="wrap_content"
```

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

```
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_weight="50"
```

```
    android:text="SignUp for Facebook"/>
```

```

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:gravity="end"
    android:textColor="@color/white"
    android:layout_marginEnd="130dp"
    android:layout_weight="1"
    android:textStyle="bold"
    android:text="?"/>
</LinearLayout>
</LinearLayout>
</LinearLayout>

```

### Java Code:

```

package com.example.vaidyakare;

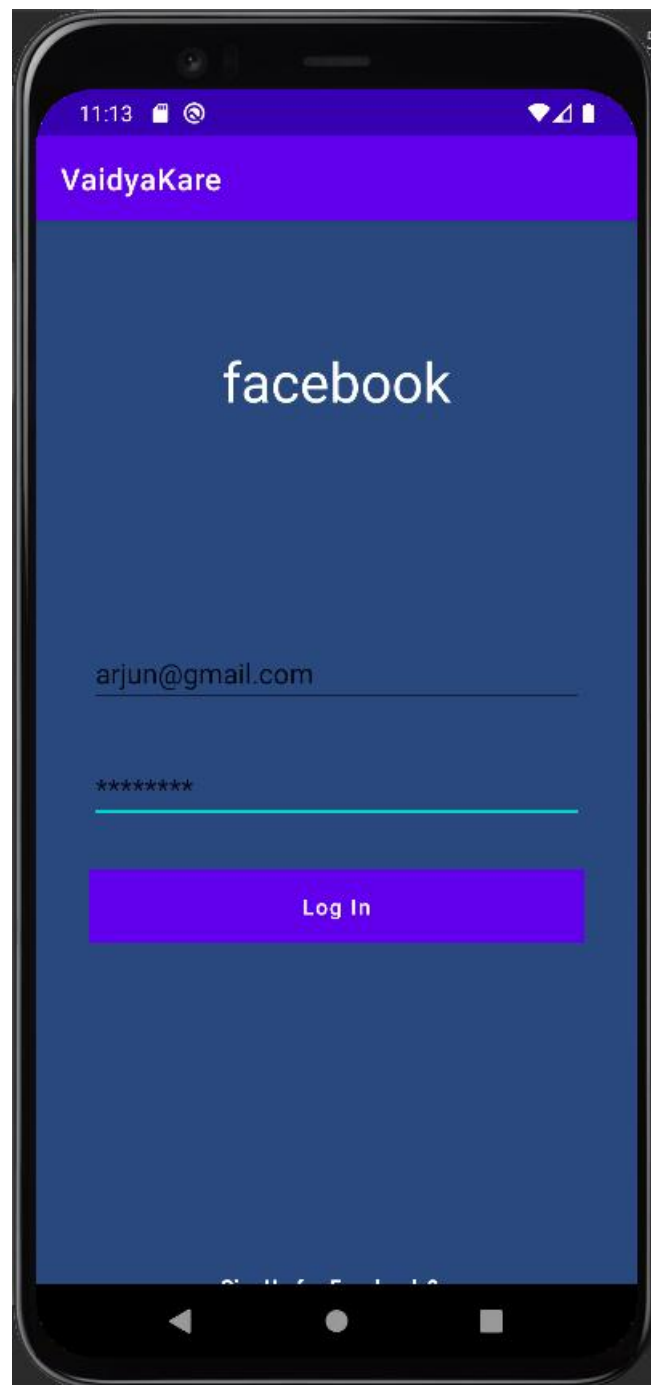
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;

public class facebook extends AppCompatActivity {

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

```

**Output:**





**Program no: 09**

**Aim:** Develop an application that toggles image using FrameLayout

**XML Code:**

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

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

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

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

```
    android:layout_height="match_parent"
```

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

```
    android:background="@color/bg2"
```

```
    tools:context=".image_toogle">
```

```
    <ImageView
```

```
        android:id="@+id/image2"
```

```
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
```

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

```
        android:src="@drawable/vd"
```

```
        android:visibility="gone"/>
```

```
    <ImageView
```

```
        android:id="@+id/image1"
```

```
        android:layout_width="wrap_content"
```

```

    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:src="@drawable/applogo" />

```

```
</FrameLayout>
```

### Java Code:

```

package com.example.vaidyakare;

import androidx.appcompat.app.AppCompatActivity;

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

import android.widget.ImageView;

public class image_toogle extends AppCompatActivity implements View.OnClickListener {

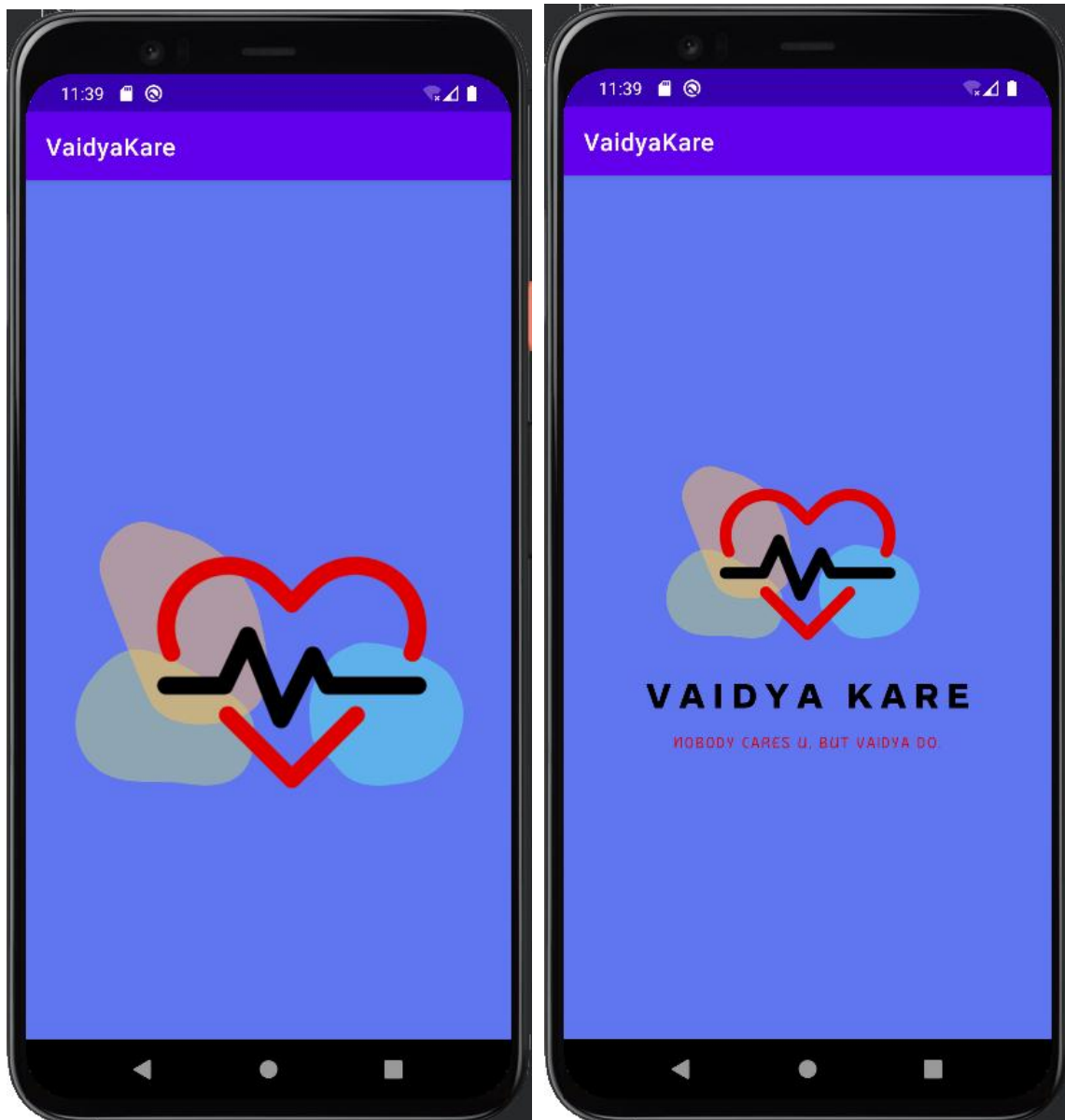
    ImageView img1, img2;

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

        img1 = findViewById(R.id.image1);
        img2 = findViewById(R.id.image2);
    }
}

```

```
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">

    <ListView

        android:layout_width="409dp"

        android:layout_height="354dp"

        tools:layout_editor_absoluteX="1dp"

        tools:layout_editor_absoluteY="1dp"

        android:id="@+id/list1"/>

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

**Java Code:**

```
package com.example.vaidyakare;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemClickListener {

    ListView l1;

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

        String[] cars = {"BMW", "BENZ", "AUDI"};

        try {
```

```

        ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,
R.layout.support_simple_spinner_dropdown_item, cars);

```

```

        ll.setAdapter(adapter);
        ll.setOnItemClickListener(this);
    }

```

```

    catch (Exception e)
    {
        Toast.makeText(this,e.getMessage(),Toast.LENGTH_SHORT).show();
    }
}

```

```

@Override

```

```

public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {
    TextView tem=(TextView) view;

    Toast.makeText(this, tem.getText(), Toast.LENGTH_LONG).show();
}
}

```

**Output:**



## Program no: 11

**Aim:** Implement Intent to navigate between multiple activities (Explicit)

### XML Code:

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:onClick="callActivity"

    tools:context=".intent_activity">

    <EditText

        android:id="@+id/name"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:ems="10"

        android:hint="Name"

        android:inputType="textPersonName"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.437"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"
```

```
app:layout_constraintVertical_bias="0.148" />
```

```
<EditText
```

```
    android:id="@+id/address"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Address"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.437"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.313" />
```

```
<EditText
```

```
    android:id="@+id/email"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Email"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.437"
    app:layout_constraintStart_toStartOf="parent"
```

```

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>

```

## Display.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".intent_act2">

```

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

```
<TextView
    android:id="@+id/view1"
    android:layout_width="189dp"
    android:layout_height="36dp"
    android:textAlignment="center"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.459"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.22" />
```

```
<TextView
    android:id="@+id/view2"
    android:layout_width="189dp"
```

```

        android:layout_height="36dp"
        android:textAlignment="center"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.459"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.306" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

### Java Code:

```

package com.example.vaidyakare;

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

public class intent_activity extends AppCompatActivity {

    Button b1;

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

```

```

        setContentView(R.layout.activity_intent);

    }

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

        String msg = editText1.getText().toString();
        final EditText editText2 = (EditText)findViewById(R.id.address);
        String add = editText2.getText().toString();
        final EditText editText3 = (EditText)findViewById(R.id.email);
        String em = editText3.getText().toString();

        i.putExtra("Value1", msg);
        i.putExtra("Value2", add);
        i.putExtra("Value3", em);
        startActivity(i);
    }
}

```

## Display.java

```

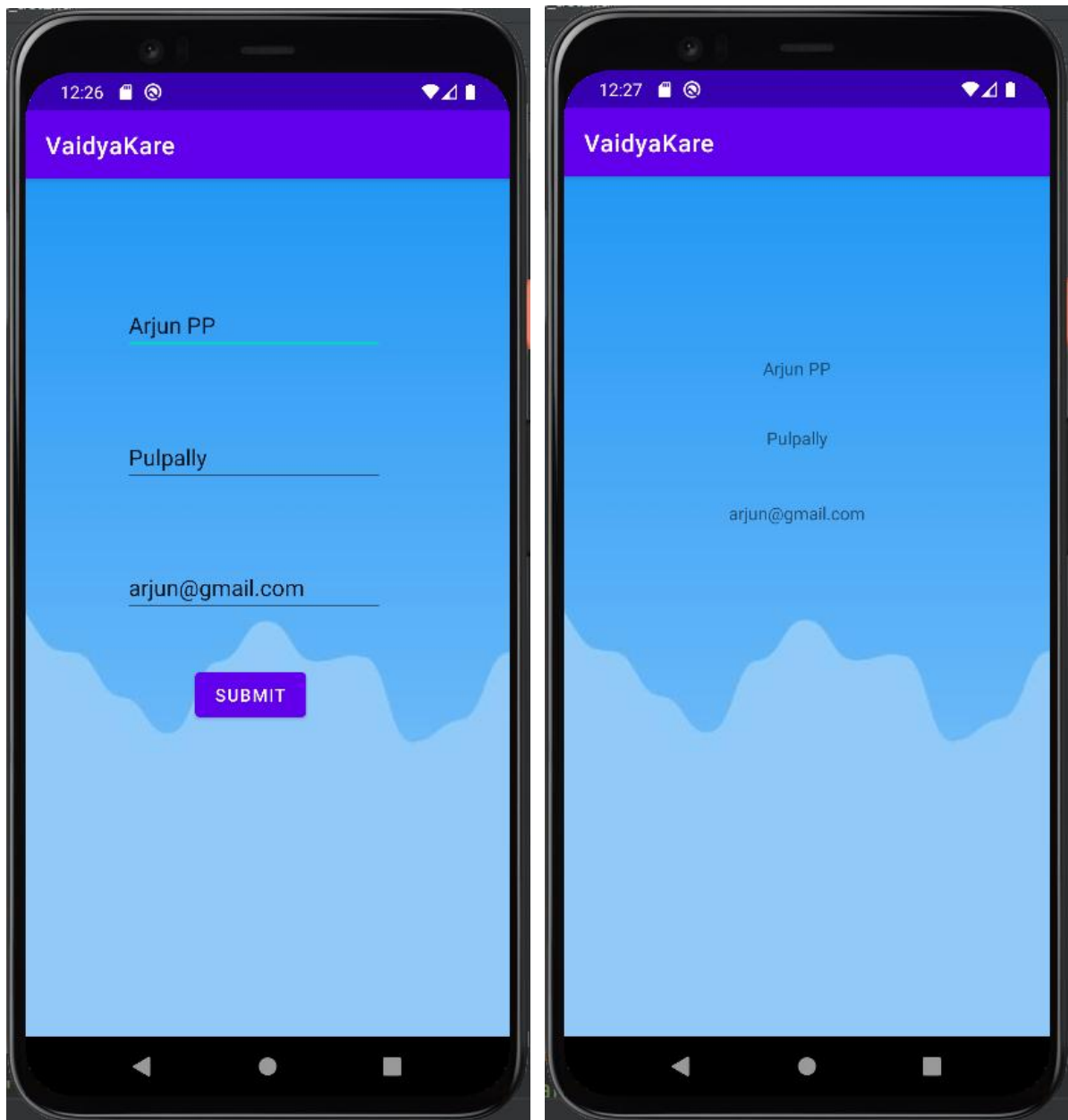
package com.example.vaidyakare;

import androidx.appcompat.app.AppCompatActivity;

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

```

```
public class intent_act2 extends AppCompatActivity {  
    TextView view1;  
    TextView view2;  
    TextView view3;  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_intent_act2);  
  
        view1 = (TextView) findViewById(R.id.view1);  
        view2 = (TextView) findViewById(R.id.view2);  
        view3 = (TextView) findViewById(R.id.view3);  
  
        Bundle extras = getIntent().getExtras();  
  
        String value1 = extras.getString("Value1");  
        String value2 = extras.getString("Value2");  
        String value3 = extras.getString("Value3");  
  
        view1.setText(value1);  
        view2.setText(value2);  
        view3.setText(value3);  
    }  
}
```

**Output:**



## Program no: 12

**Aim:** Develop an application that works with Implicit intents

### XML Code:

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

<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".explicit">

    <Button

        android:id="@+id/cm"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Refer Google"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent" />

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

**Java Code:**

```

package com.example.vaidyakare;

import androidx.appcompat.app.ActionBar;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.net.UriQuerySanitizer;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

public class explicit extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_explicit);

        Button click = findViewById(R.id.cm);

        click.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View view) {

                Intent j = new Intent(Intent.ACTION_VIEW,
Uri.parse("https://www.google.com/"));

                startActivity(j);

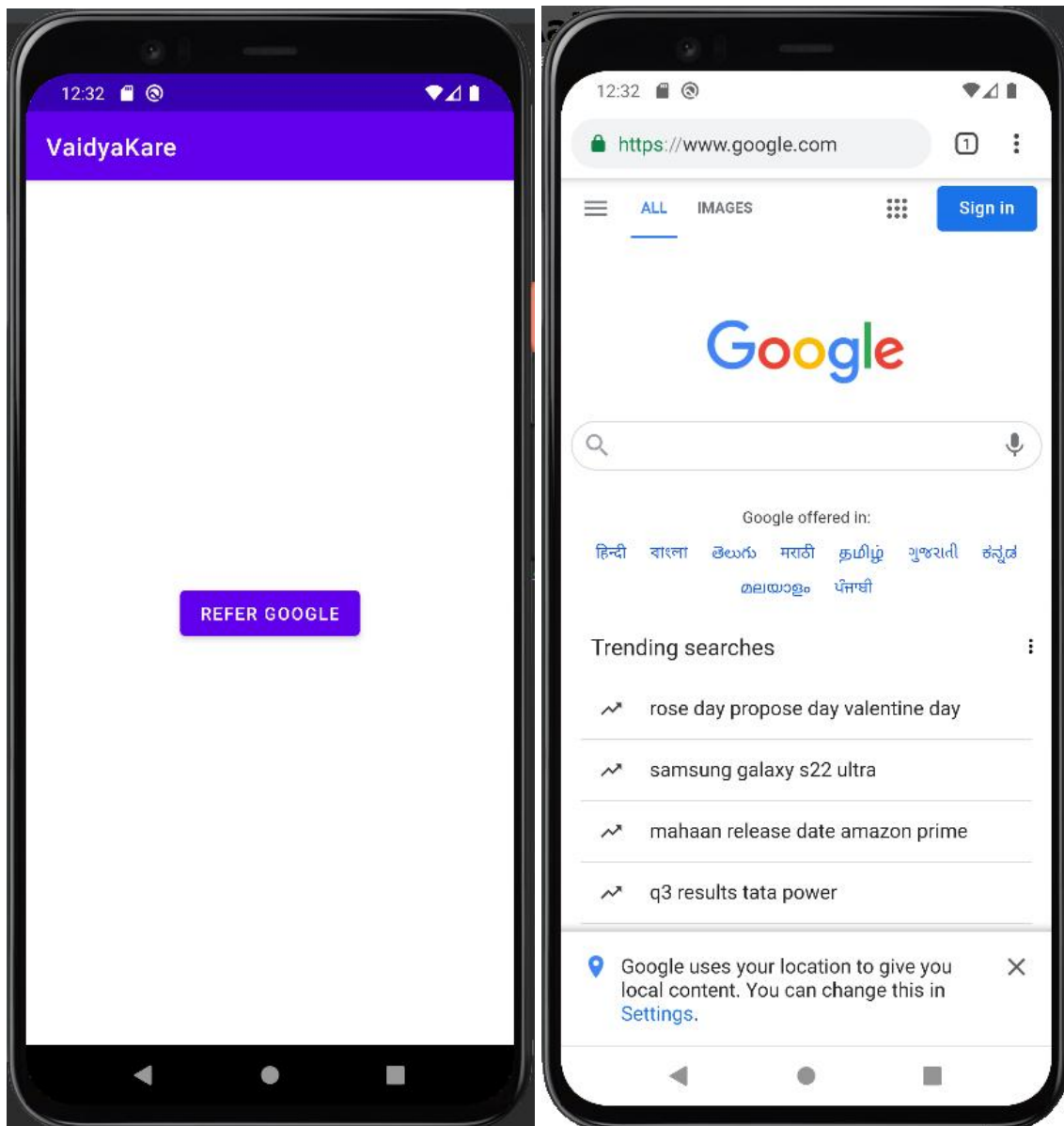
            }

        });

    }

}

```

**Output:**

## Program no: 13

**Aim:** Implement Options Menu to navigate to activities

### XML Code:

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

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

    <item android:id="@+id/item1" android:title="Home"/>

    <item android:id="@+id/item2" android:title="Settings"/>

    <item android:id="@+id/item3" android:title="About"/>

    <item android:id="@+id/item4" android:title="Help"/>

    <item android:id="@+id/item5" android:title="LogOut"/>

</menu>
```

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".menu_bar">

    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Welcome Home..!"
```

```

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

### Java Code:

```

package com.example.vaidyakare;

import androidx.appcompat.app.AppCompatActivity;

import android.annotation.SuppressLint;
import android.os.Bundle;
import android.view.Menu;

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

public class menu_bar extends AppCompatActivity {

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

    }
}

```

@Override

```
public boolean onCreateOptionsMenu(Menu menu) {  
    getMenuInflater().inflate(R.menu.menu_list, menu);  
  
    return true;  
  
}
```

@Override

```
public boolean onOptionsItemSelected(MenuItem item) {  
  
    switch (item.getItemId()) {  
  
        case R.id.item1:  
            Toast.makeText(getApplicationContext(), "Home clicked",  
Toast.LENGTH_SHORT).show();  
  
            return true;  
  
        case R.id.item2:  
            Toast.makeText(getApplicationContext(), "Settings clicked",  
Toast.LENGTH_SHORT).show();  
  
            return true;  
  
        case R.id.item3:
```

```
        Toast.makeText(getApplicationContext(), "About clicked",  
        Toast.LENGTH_SHORT).show();
```

```
        return true;
```

```
    case R.id.item4:
```

```
        Toast.makeText(getApplicationContext(), "Help clicked",  
        Toast.LENGTH_SHORT).show();
```

```
        return true;
```

```
    case R.id.item5:
```

```
        Toast.makeText(getApplicationContext(), "Logout clicked",  
        Toast.LENGTH_SHORT).show();
```

```
        return true;
```

```
    default:
```

```
        return super.onOptionsItemSelected(item);
```

```
    }
```

```
}
```

```
}
```

**Output:**



**Program no: 14**

**Aim:** Develop an application that uses ArrayAdapter with ListView

**XML Code:**

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

<LinearLayout

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".arrayAdapter">

    <ListView

        android:id="@+id/mobile_list"

        android:layout_width="match_parent"

        android:layout_height="wrap_content" >

    </ListView>

</LinearLayout>
```

**Java Code:**

```
package com.example.vaidyakare;

import androidx.appcompat.app.AppCompatActivity;

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

public class arrayAdapter extends AppCompatActivity implements
AdapterView.OnItemClickListener {

    ListView l;

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

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

```
l = findViewById(R.id.mobile_list);

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

    l.setAdapter(adapter);

    l.setOnItemClickListener(this);

}

@Override

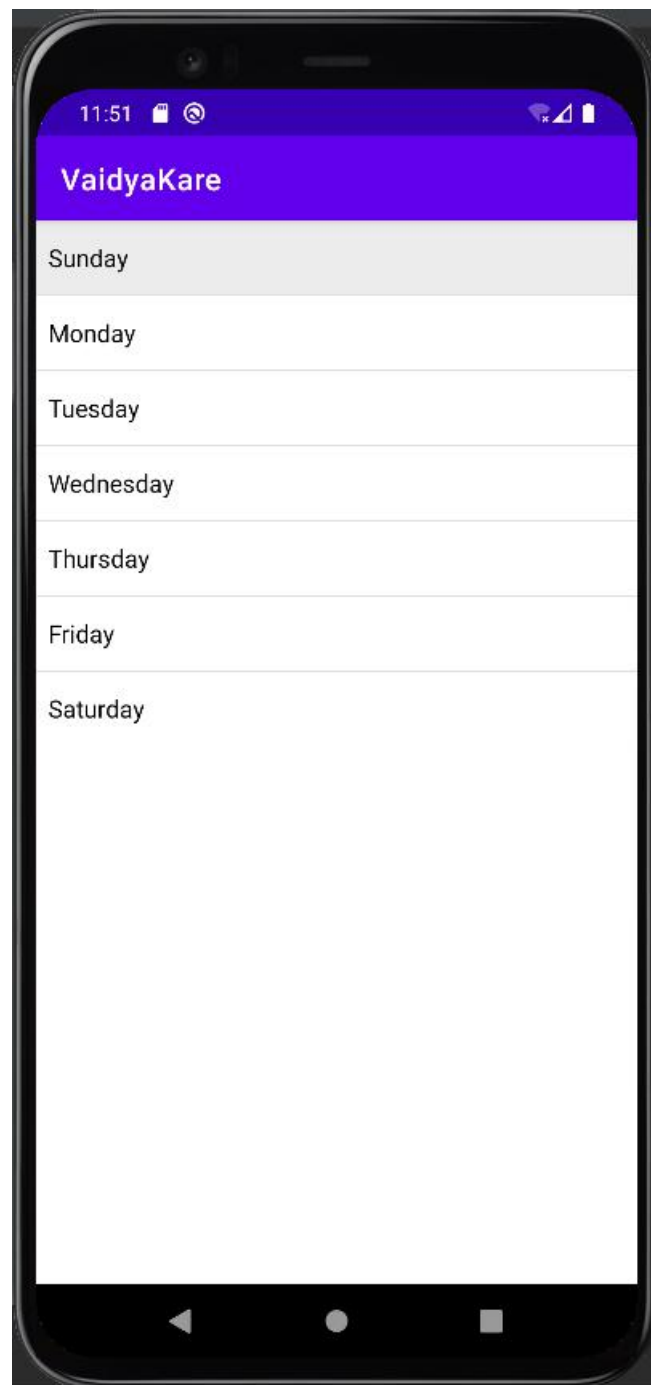
public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {

    TextView temp = (TextView) view;

    Toast.makeText(this, "You clicked " + temp.getText() + " at " + i,
Toast.LENGTH_LONG).show();

}

}
```

**Output:**

**Program no: 15**

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

**XML Code:**

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

    <GridView
        android:numColumns="auto_fit"
        android:gravity="center"
        android:columnWidth="100dp"
        android:stretchMode="columnWidth"
        android:layout_width="fill_parent"
        android:layout_height="fill_parent"
        android:id="@+id/grid"
    />

</LinearLayout>
```

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="wrap_content"
```

```

    android:layout_height="wrap_content"
    android:padding="5dp" >

```

```

<ImageView
    android:id="@+id/grid_image"
    android:layout_width="50dp"
    android:layout_height="50dp">
</ImageView>

```

```

<TextView
    android:id="@+id/grid_text"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="15dp"
    android:textSize="9sp" >
</TextView>

```

```

</LinearLayout>

```

### Java Code:

```

package com.example.gridview_image_text_example;

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

```

```
import android.widget.TextView;

public class CustomGrid extends BaseAdapter{

    private Context mContext;

    private final String[] web;

    private final int[] Imageid;

    public CustomGrid(Context c,String[] web,int[] Imageid ) {

        mContext = c;

        this.Imageid = Imageid;

        this.web = web;

    }

    @Override

    public int getCount() {

        // TODO Auto-generated method stub

        return web.length;

    }

    @Override

    public Object getItem(int position) {

        // TODO Auto-generated method stub

        return null;

    }

    @Override

    public long getItemId(int position) {
```

```

// TODO Auto-generated method stub

return 0;

}

@Override

public View getView(int position, View convertView, ViewGroup parent) {

// TODO Auto-generated method stub

View grid;

LayoutInflater inflater = (LayoutInflater) mContext

    .getSystemService(Context.LAYOUT_INFLATER_SERVICE);

if (convertView == null) {

    grid = new View(mContext);

    grid = inflater.inflate(R.layout.grid_single, null);

    TextView textView = (TextView) grid.findViewById(R.id.grid_text);

    ImageView imageView = (ImageView) grid.findViewById(R.id.grid_image);

    textView.setText(web[position]);

    imageView.setImageResource(Imageid[position]);

} else {

    grid = (View) convertView;

}

return grid;

}

}

```



```
package com.example.gridview_image_text_example;
```

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

```
import android.app.Activity;
```

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

```
import android.widget.AdapterView;
```

```
import android.widget.GridView;
```

```
import android.widget.Toast;
```

```
public class MainActivity extends Activity {
```

```
    GridView grid;
```

```
    String[] web = {
```

```
        "Google",
```

```
        "Github",
```

```
        "Instagram",
```

```
        "Facebook",
```

```
        "Twitter",
```

```
        "WordPress",
```

```
        "Youtube",
```

```
        "Whatsapp",
```

```
        "Blogger"
```

```
    } ;
```

```
    int[] imageId = {
```

```
        R.drawable.image1,
```

```
        R.drawable.image2,
```

```

        R.drawable.image3,
        R.drawable.image4,
        R.drawable.image5,
        R.drawable.image6,
        R.drawable.image7,
        R.drawable.image8,
        R.drawable.image9,

    };

```

```

@Override

```

```

protected void onCreate(Bundle savedInstanceState) {

```

```

    super.onCreate(savedInstanceState);

```

```

    setContentView(R.layout.activity_main);

```

```

    CustomGrid adapter = new CustomGrid(MainActivity.this, web, imageId);

```

```

    grid=(GridView)findViewById(R.id.grid);

```

```

    grid.setAdapter(adapter);

```

```

    grid.setOnItemClickListener(new AdapterView.OnItemClickListener() {

```

```

@Override

```

```

    public void onItemClick(AdapterView<?> parent, View view,

```

```

        int position, long id) {

```

```

        Toast.makeText(MainActivity.this, "You Clicked at " +web[+ position],
        Toast.LENGTH_SHORT).show();

```

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

**Output:**



**Program no: 16**

**Aim:** Develop an application that implements Spinner component and perform event handling

**XML Code:**

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".spinner">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Spinner "/>

    <Spinner
        android:id="@+id/spinner"
        android:layout_height="50dp"
        android:layout_width="160dp"/>
```

```
</LinearLayout>
```

### Java Code:

```
package com.example.vaidyakare;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;

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

public class spinner extends AppCompatActivity implements
AdapterView.OnItemClickListener {

    String[] country = { "India", "USA", "China", "Japan", "Other"};

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

        //Getting the instance of Spinner and applying OnItemSelectedListener on it
        Spinner spin = (Spinner) findViewById(R.id.spinner);
        spin.setOnItemSelectedListener(this);
```

```
//Creating the ArrayAdapter instance having the country list

ArrayAdapter aa = new
ArrayAdapter(this,android.R.layout.simple_spinner_item,country);

aa.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);


//Setting the ArrayAdapter data on the Spinner

spin.setAdapter(aa);


}


//Performing action onItemSelected and onNothing selected

@Override

public void onItemSelected(AdapterView<?> arg0, View arg1, int position, long id) {

    Toast.makeText(getApplicationContext(),country[position] ,
    Toast.LENGTH_LONG).show();

}


@Override

public void onNothingSelected(AdapterView<?> arg0) {

    // TODO Auto-generated method stub

}


}
```

**Output:**



**Program no: 17****Aim:** Apply themes via code and manifest 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:gravity="center"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Name"/>

</LinearLayout>

```

*//color.xml*

```

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

```



```
<resources>

    <color name="orange">#6076F1</color>

    <color name="teal">#6076F1</color>

    <color name="blue">#00BCD4</color>

</resources>
```

*//themes.xml*

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

    <!-- Base application theme. -->

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

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

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

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

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

    </style>

</resources>
```

*//AndroidManifest.xml*

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

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

    package="com.example.vaidyakare">

    <application

        android:allowBackup="true"

        android:icon="@mipmap/ic_launcher"

        android:label="@string/app_name"

        android:roundIcon="@mipmap/ic_launcher_round"
```

```

        android:supportsRtl="true"

        android:theme="@style/Theme.VaidyaKare">

<activity
    android:name=".MainActivity"
    android:exported="true">

    <intent-filter>

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

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

    </intent-filter>

</activity>

<meta-data
    android:name="preloaded_fonts"
    android:resource="@array/preloaded_fonts" />

</application>

</manifest>

```

## Java Code:

```

package com.example.vaidyakare;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

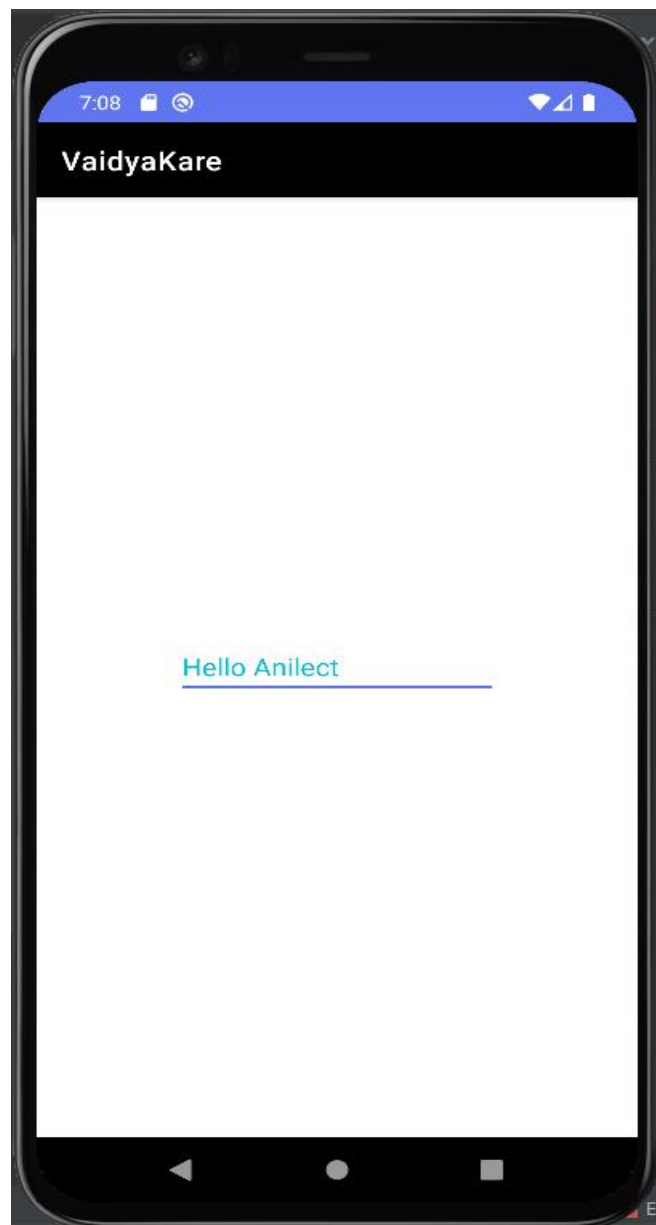
public class theme extends AppCompatActivity {

```

@Override

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

**Output:**



**Program no: 18**

**Aim:** Develop application using Fragments

**XML Code:**

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

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

    <RelativeLayout

        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:background="@drawable/splash"
        android:layout_weight="1">

        <Button

            android:id="@+id/b1"
            android:layout_width="160dp"
            android:layout_height="50dp"
            android:layout_alignParentBottom="true"
            android:layout_marginStart="30dp"
```

```

        android:layout_marginBottom="30dp"
        android:backgroundTint="#329536"
        android:text="Fragment1" />

```

```

<Button

```

```

    android:id="@+id/b2"
    android:layout_width="160dp"
    android:layout_height="50dp"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="30dp"
    android:layout_marginBottom="30dp"
    android:backgroundTint="#F44336"
    android:text="Fragment2" />

```

```

</RelativeLayout>

```

```

<FrameLayout

```

```

    android:id="@+id/frameLayout"
    android:layout_width="match_parent"
    android:layout_height="0dp"
    android:layout_weight="4"
    android:background="#65CAF8"/>

```

```

</LinearLayout>

```

```

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

```

```

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

```

```

xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="#69FFF1"
tools:context=".Fragment1">

```

```

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

```

```

<ImageView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerInParent="true"
    android:src="@drawable/a" />

```

```

</RelativeLayout>

```

```

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

```

```

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#ECB7B3"
    tools:context=".Fragment2">

```

```

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

```

```

<ImageView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"

```

```
    android:layout_centerInParent="true"  
    android:src="@drawable/e"/>
```

```
</RelativeLayout>
```

### Java Code:

```
package com.example.vaidyakare;  
  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.fragment.app.Fragment;  
import androidx.fragment.app.FragmentManager;  
import androidx.fragment.app.FragmentTransaction;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
  
public class fragment extends AppCompatActivity {  
    Button b1, b2;  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_fragment);  
        b1 = findViewById(R.id.b1);  
        b2 = findViewById(R.id.b2);  
    }  
}
```

```

b1.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        replaceFragment(new Fragment1());

    }

});

b2.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        replaceFragment(new Fragment2());

    }

});

}

private void replaceFragment(Fragment fragment) {

    FragmentManager fragmentManager = getSupportFragmentManager();

    FragmentTransaction fragmentTransaction = fragmentManager.beginTransaction();

    fragmentTransaction.replace(R.id.frameLayout, fragment);

    fragmentTransaction.commit();

}

}

package com.example.vaidyakare;

import android.os.Bundle;

import androidx.fragment.app.Fragment;

```



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

public class Fragment1 extends Fragment {

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.activity_fragment1, container, false);
    }
}
```

```
package com.example.vaidyakare;
```

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

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

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

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

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

```
public class Fragment2 extends Fragment {
```

```
    @Override
```

```

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

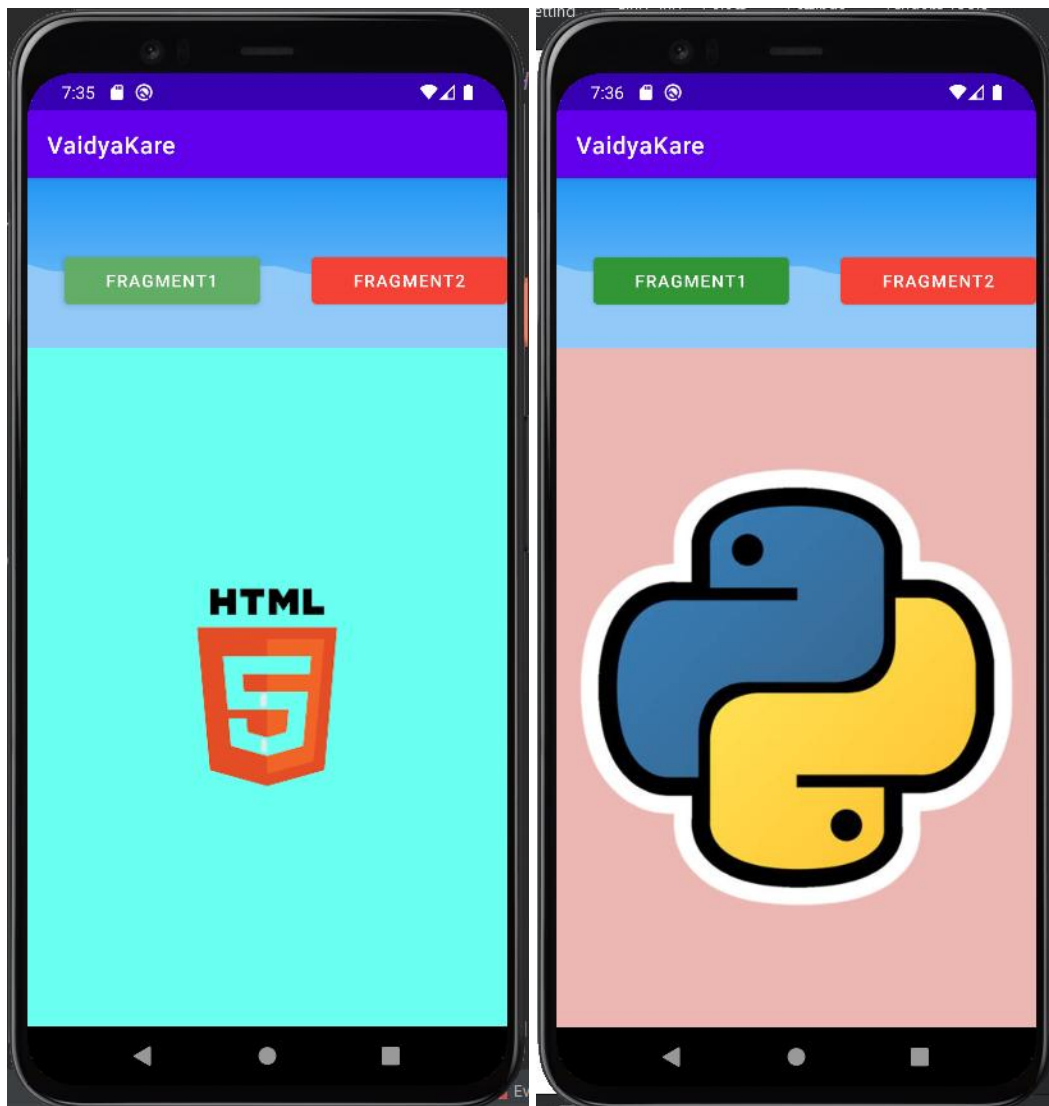
    // Inflate the layout for this fragment

    return inflater.inflate(R.layout.activity_fragment2, container, false);

}
}

```

### Output:



**Program no: 19**

**Aim:** Implement Navigation drawer

**XML Code:**

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

<androidx.drawerlayout.widget.DrawerLayout

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

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".navigation"

    android:id="@+id/drawer">

    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="match_parent">

        <TextView

            android:layout_width="match_parent"

            android:layout_height="match_parent"

            android:text="Hai there \nWelcome back"

            android:textSize="30dp">

            </TextView>
```

```

</LinearLayout>

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

</com.google.android.material.navigation.NavigationView>
</androidx.drawerlayout.widget.DrawerLayout>

```

### Java Code:

```

package com.example.vaidyakare;

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.NavigationView;

public class navigation extends AppCompatActivity implements

```

```

        NavigationView.OnNavigationItemSelectedListener {
public DrawerLayout drawerLayout;
public ActionBarDrawerToggle actionBarDrawerToggle;

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

    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);
    }

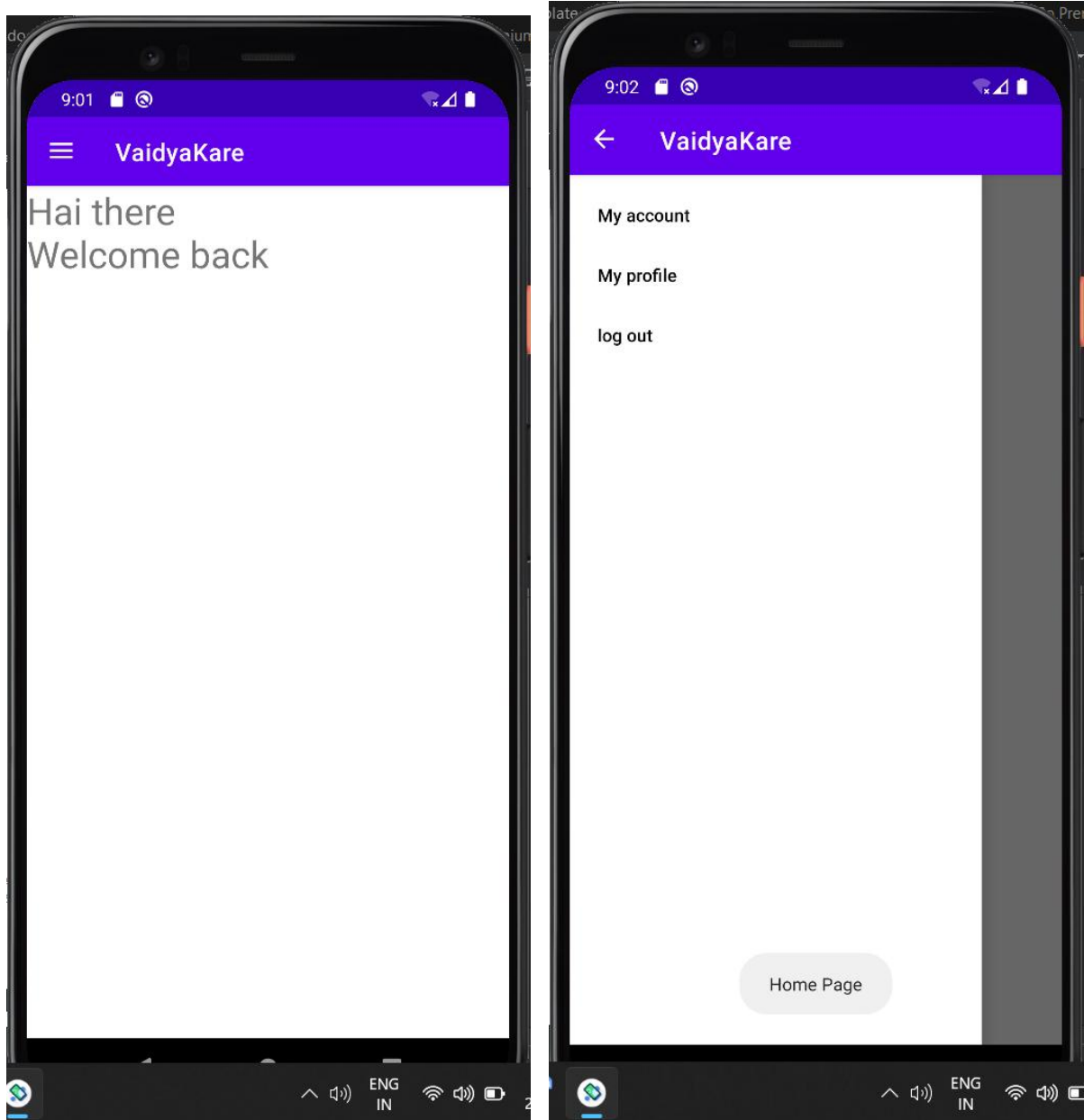
    @Override
    public boolean onNavigationItemSelected(@NonNull MenuItem item) {
        int id = item.getItemId();

        if (id == R.id.account) {
            Toast.makeText(this, "Home Page", Toast.LENGTH_SHORT).show();
        }

        if (id == R.id.profile) {
            Toast.makeText(this, "Settings Page",
                Toast.LENGTH_SHORT).show();
        }

        if (id == R.id.logout) {
            Toast.makeText(this, "Logout", Toast.LENGTH_SHORT).show();
        }

        return false;
    }
}
```

**Output:**

**Program no: 20**

**Aim:** Program to implement activity lifecycle

**XML Code:**

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

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

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

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

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".MainActivity3">

    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:text="Hello World!"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintLeft_toLeftOf="parent"

        app:layout_constraintRight_toRightOf="parent"

        app:layout_constraintTop_toTopOf="parent" />

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



**Java Code:**

```
package example.javatpoint.com.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");

}

b1.setOnClickListener(new View.OnClickListener()

{

    @Override

    public void onClick (View v){

        String s1 = e1.getText().toString();

        String s2 = e2.getText().toString();

        Intent i = new Intent(getApplicationContext(), MainActivity3.class);

        startActivity(i);

    }

    @Override

    protected void onStop () {

        super.onStop();

        Log.d("lifecycle", "onStop invoked");

    }

    @Override

    protected void onRestart () {

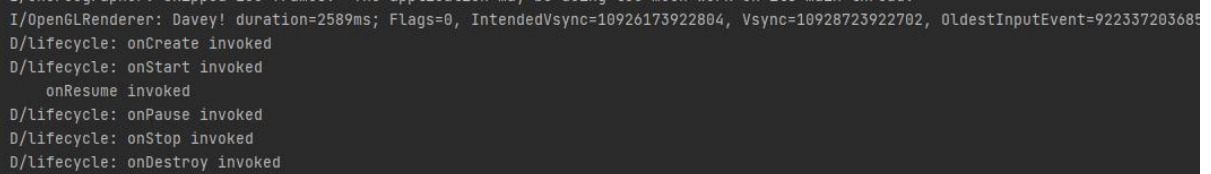
        super.onRestart();

        Log.d("lifecycle", "onRestart invoked");

```

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

## Output:



```
I/OpenGLRenderer: Davey! duration=2589ms; Flags=0, IntendedVsync=10926173922804, Vsync=10928723922702, OldestInputEvent=922337203685  
D/lifecycle: onCreate invoked  
D/lifecycle: onStart invoked  
    onResume invoked  
D/lifecycle: onPause invoked  
D/lifecycle: onStop invoked  
D/lifecycle: onDestroy invoked
```

**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=".MainActivity2">

    <TextView

        android:id="@+id/texttitle"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginTop="20dp"

        android:text="Please enter the details below"

        android:textSize="24dp" />

    <EditText

        android:id="@+id/name"

        android:layout_width="match_parent"
```

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

<EditText

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

<EditText

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

<Button

```
android:id="@+id/buttonInsert"
android:layout_width="match_parent"
```

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

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

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

    <Button
        android:id="@+id/buttonView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
```

```

        android:text="View data"

        android:layout_below="@+id/buttondelete"

    />

```

```
</RelativeLayout>
```

### Java Code:

```

package com.example.database;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity2 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_main2);

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(MainActivity2.this, "New Entry Inserted",
Toast.LENGTH_SHORT).show();
        else
            Toast.makeText(MainActivity2.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(MainActivity2.this, "Entry updated",
Toast.LENGTH_SHORT).show();

    else

        Toast.makeText(MainActivity2.this, "Not updated",
Toast.LENGTH_SHORT).show();

    }

});

delete.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

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


        Boolean checkdeletedata=DB.deletedata(nameTXT);

        if(checkdeletedata==true)

            Toast.makeText(MainActivity2.this, "Entry deleted",
Toast.LENGTH_SHORT).show();

        else

            Toast.makeText(MainActivity2.this, "Not deleted",
Toast.LENGTH_SHORT).show();

        }

    });

```

```

view.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        Cursor res=DB.getdata();

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

            Toast.makeText(MainActivity2.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(MainActivity2.this);

        builder.setCancelable(true);

        builder.setTitle("User Entries");

        builder.setMessage(buffer.toString());

        builder.show();

    }

});

}

}

```

```
package com.example.database;

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

import androidx.annotation.Nullable;

public class DBHelper extends SQLiteOpenHelper {

    public DBHelper(Context context) {
        super(context, "Userdata", null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase DB) {
        DB.execSQL("create Table Userdetails(name TEXT primary key, contact TEXT, dob TEXT)");
    }

    @Override
    public void onUpgrade(SQLiteDatabase DB, int oldVersion, int newVersion) {
        DB.execSQL("drop Table if exists Userdetails");
    }
}
```

```

    }

    public Boolean insertuserdata(String name, String contact, String dob){
        SQLiteDatabase DB=this.getWritableDatabase();

        ContentValues contentValues=new ContentValues();

        contentValues.put("name",name);

        contentValues.put("contact",contact);

        contentValues.put("dob",dob);

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

        if(result==-1){
            return false;
        }else{
            return true;
        }
    }

    public Boolean updateuserdata(String name, String contact, String dob){
        SQLiteDatabase DB=this.getWritableDatabase();

        ContentValues contentValues=new ContentValues();

        contentValues.put("contact",contact);

        contentValues.put("dob",dob);

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

        if(cursor.getCount(>0) {

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

            if (result == -1) {

                return false;

            } else {

                return true;

```

```

    }
} else {
    return false;
}
}

public Boolean deletedata(String name){
    SQLiteDatabase DB=this.getWritableDatabase();

    Cursor cursor=DB.rawQuery("Select * from Userdetails where name=?", new
String[]{name});
    if(cursor.getCount(>0) {
        long result = DB.delete("Userdetails", "name=?", new String[]{name});
        if (result == -1) {
            return false;
        } else {
            return true;
        }
    } else {
        return false;
    }
}

public Cursor getdata (){
    SQLiteDatabase DB=this.getWritableDatabase();

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

    return cursor;
}
}

```

**Output:**