

Mobile Application Development

RECORD

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Batch: 02

1. Design and implement a mobile APP for the below scenario. The APP should calculate the BMI of a person and display whether his BMI is normal, underweight or overweight.

Note: Body Mass Index is a simple calculation using a person's height and weight. The formula is $BMI = \frac{kg}{m^2}$ where kg is a person's weight in kilograms and m² is their height in meters squared. A BMI of 25.0 or more is overweight, while the healthy range is 18.5 to 24.9. Below 18.5 is underweight. User enters weight in kg/lb and height in cm/m/ft.(use radio button) at the click of a button it should calculate the BMI and display the result.

Activity_main.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:background="#3355FF"
    android:fadingEdge="horizontal" android:orientation="vertical"
    >

    <TextView android:id="@+id/tv1"
        android:layout_width="124dp"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:paddingLeft="15dp"
        android:paddingTop="40dp"
        android:shadowColor="@android:color/black"
        android:shadowDx="4"
        android:shadowDy="4" android:text="BMI"
        android:textAppearance="?android:attr/textAppearanceLarge"
        android:textColor="@android:color/white"
        android:textSize="50sp" android:typeface="serif"/>
    <TextView android:id="@+id/tv2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="Calculator"
        android:textColor="@android:color/white"
        android:textSize="20dp"
        android:textStyle="bold" />

    <TextView android:id="@+id/tv3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:paddingTop="30dp"
        android:text="WEIGHT (KG)"
        android:textAppearance="?android:attr/textAppearanceMedium"
        android:textColor="@android:color/white"
        android:textStyle="bold|italic"
        android:typeface="serif"
        tools:ignore="DuplicateIds" />
    <EditText android:id="@+id/et1"
        android:layout_width="96dp"
        android:layout_height="wrap_content"
```

```
        android:layout_gravity="center"
        android:hint="IN KGs"
        android:ems="10"
        android:fadingEdgeLength="10dp"
        android:inputType="numberDecimal"
        android:textAlignment="center" >
        <requestFocus />
    </EditText>

<TextView android:id="@+id/tv3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:paddingTop="30dp"
        android:text="HEIGHT (CM)"
        android:textAppearance="?android:attr/textAppearanceMedium"
        android:textColor="@android:color/white"
        android:textStyle="bold|italic"
        android:typeface="serif"
        tools:ignore="DuplicateIds" />

<EditText android:id="@+id/et2"
        android:layout_width="96dp"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:hint="IN CMS"
        android:ems="10"
        android:inputType="numberDecimal" >
    </EditText>

<Button android:id="@+id/ib1"
        android:layout_width="158dp"
        android:layout_height="51dp"
        android:layout_gravity="center"
        android:layout_marginTop="20dp"
        android:fadingEdge="vertical"
        android:longClickable="true"
        android:nextFocusRight="@color/colorPrimary"
        android:text="Calculate"
        android:visibility="visible" />

<TextView android:id="@+id/tv4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:paddingTop="20dp"
        android:text=""
        android:textSize="20dp"
        android:textStyle="bold"
        android:textColor="@android:color/holo_orange_dark"/>

</LinearLayout>
```

MainActivity.java:-

```
package com.example.bmicalculator; import  
androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle; import  
android.app.Activity; import  
android.text.TextUtils; import  
android.view.Menu; import  
android.view.View; import  
android.widget.EditText; import  
android.widget.TextView; public class  
MainActivity extends Activity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
  
        final EditText e1 = (EditText) findViewById(R.id.et1); final EditText e2 =  
        (EditText) findViewById(R.id.et2); final TextView tv4 = (TextView)  
        findViewById(R.id.tv4); findViewById(R.id.ib1).setOnClickListener(new  
        View.OnClickListener() {  
  
            @Override public void  
            onClick(View v) {  
  
                String str1 = e1.getText().toString();  
                String str2 = e2.getText().toString();  
  
                if (TextUtils.isEmpty(str1)) {  
                    e1.setError("Please enter your weight");  
                    e1.requestFocus(); return;  
                }  
                if (TextUtils.isEmpty(str2)) {  
                    e2.setError("Please enter your height");  
                    e2.requestFocus(); return;  
                }  
                float weight = Float.parseFloat(str1); float height =  
                Float.parseFloat(str2) / 100; float bmiValue =  
                calculateBMI(weight, height); String  
                bmiInterpretation = interpretBMI(bmiValue);  
  
                tv4.setText(String.valueOf(bmiValue + " - " + bmiInterpretation));  
            }  
        });  
    }  
}
```

```
        }
    });
}

private float calculateBMI(float weight, float height) {
    return (float) (weight / (height * height));
```

```

}

private String interpretBMI(float bmiValue) {

    if (bmiValue < 16) {
        return "Severely underweight";
    } else if (bmiValue < 18.5) {

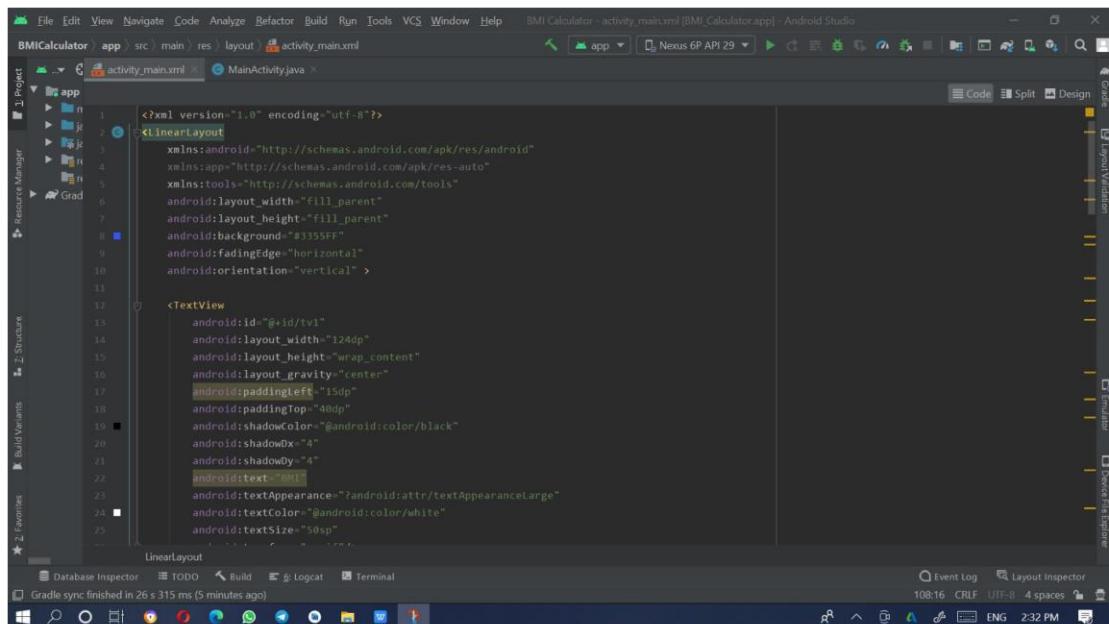
        return "Underweight";
    } else if (bmiValue < 25) {

        return "Normal";
    } else if (bmiValue < 30) {

        return "Overweight";
    } else {
        return "Obese";
    }
}

```

ScreenShots:



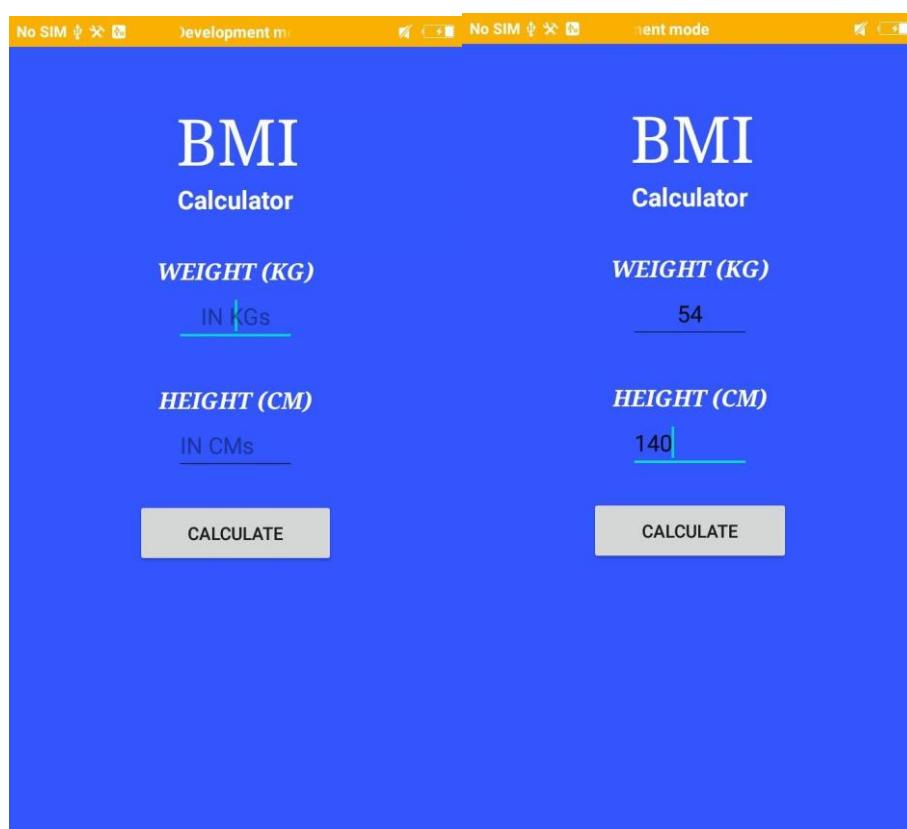
The screenshot shows the Android Studio interface with the code editor open to MainActivity.java. The code implements a BMI calculator with two input fields for weight and height, and a calculate button.

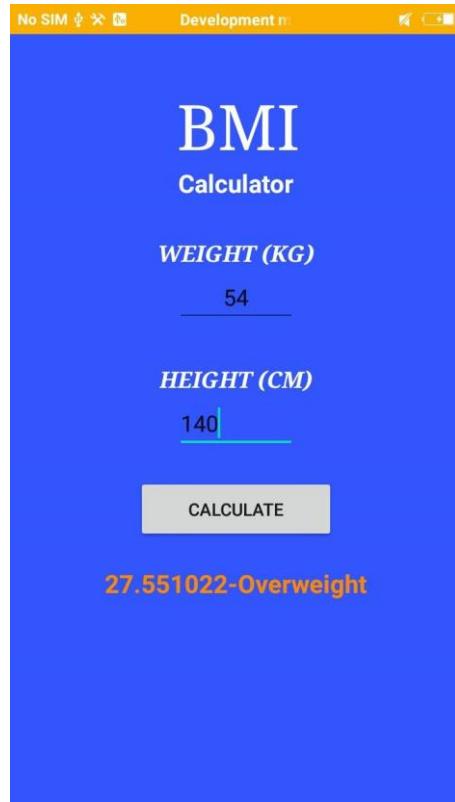
```
package com.example.hmicalculator;
import android.os.Bundle;
import android.app.Activity;
import android.text.TextUtils;
import android.view.Menu;
import android.widget.EditText;
import android.widget.TextView;

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

        final EditText e1 = (EditText) findViewById(R.id.et1);
        final EditText e2 = (EditText) findViewById(R.id.et2);
        final TextView tv4 = (TextView) findViewById(R.id.tv4);

        findViewById(R.id.b1).setOnClickListener(v) {
            String str1 = e1.getText().toString();
            String str2 = e2.getText().toString();
        }
    }
}
```





1. Create an android application to maintain a To-Do List. Your application's UI should have component pieces like text entry and the list of to-do items.

Activity_main.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:fontFamily="cursive"
        android:text="TO DO LIST"
        android:textColor="@color/colorPrimaryDark"
        android:textSize="36sp"
        android:textStyle="bold"
        android:typeface="normal"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.05"
        app:layout_constraintHorizontal_bias="0.5"/>
    <ListView
        android:id="@+id/listView"
        android:layout_width="241dp"
        android:layout_height="317dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.35" />
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:backgroundTint="@color/colorPrimaryDark"
        android:text="add item to list"
        android:textColor="#FFFFFF"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.9"
        app:layout_constraintHorizontal_bias="0.5" />
    <EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="356dp"
        android:layout_height="58dp"
        android:ems="10"
        android:hint="Enter Item to add to the list"
        android:inputType="textPersonName"
        android:textAlignment="center"
        android:textColor="@color/colorAccent"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.75" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java:-

```
package com.example.mytodolist;

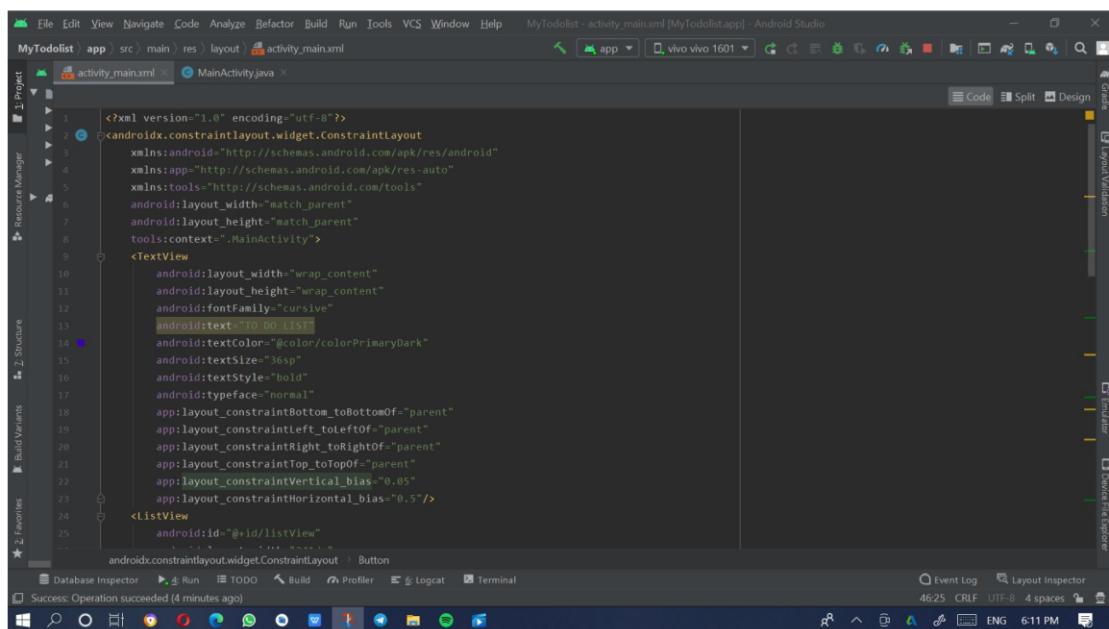
import
androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle; import
android.view.View; import
android.widget.AdapterView; import
android.widget.ArrayAdapter; import
android.widget.Button; import
android.widget.EditText; import
android.widget.ListView; import
android.widget.Toast;
public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemClickListener {
    ListView todolist;
    Button btn;
    EditText item;
    String[] lists = {"Complete assignment", " ", " ", " ", " ", " ", " ", " ", " ", " ", " ", " ", " ", " ", " ", " "};
    int counter = 2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main); todolist
        = findViewById(R.id.listView); btn =
        findViewById(R.id.button); item =
        findViewById(R.id.editTextTextPersonName); final
        ArrayAdapter<String> arrayAdapter = new
            ArrayAdapter<>(this, android.R.layout.simple_list_item_1, lists);
        todolist.setAdapter(arrayAdapter);
        todolist.setOnItemClickListener(this);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
```

```

        if(counter < 10){
            lists[counter] = item.getText().toString();
            counter++;
            todolist.setAdapter(arrayAdapter);
            item.setText("");
        } else {
            Toast.makeText(getApplicationContext(),"Cannot add more than 10
items",Toast.LENGTH_SHORT).show();
        }
    });
}
@Override
public void onItemClick(AdapterView<?> parent, View view, int position, long
id) {
    String value = parent.getItemAtPosition(position).toString();
}
}

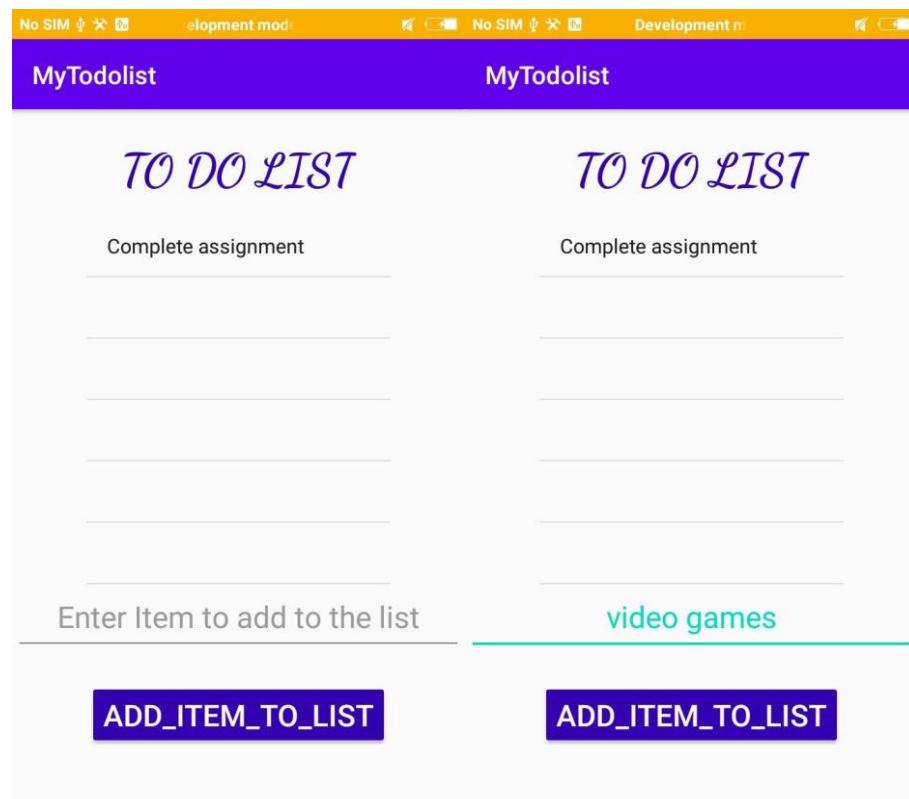
```

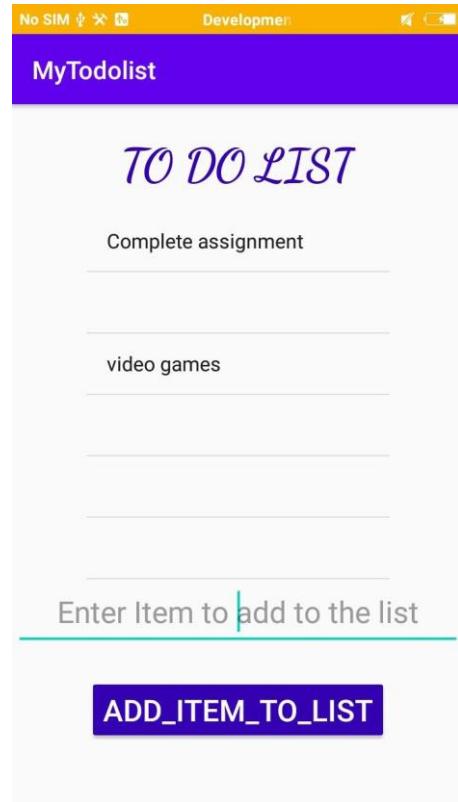
Screen Shots:-



The screenshot shows the Android Studio interface with the project 'MyTodolist' open. The main window displays the Java code for 'MainActivity.java'. The code implements a list view and a button to add items. The code includes imports for AppCompatActivity, View, AdapterView, ArrayAdapter, Button, EditText, ListView, and Toast. It defines a string array 'lists' containing five items: 'Complete assignment', 'Buy groceries', 'Call mom', 'Walk dog', and 'Wash car'. The 'onCreate' method sets the content view, finds the list view and button by ID, and sets an ArrayAdapter to populate the list view.

```
activity_main.xml x MainActivity.java x
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help MyTodolist - MainActivity.java [MyTodolistApp] - Android Studio
MyTodolist app src main java com.example.mytodolist MainActivity
1 package com.example.mytodolist;
2
3 import androidx.appcompat.app.AppCompatActivity;
4 import android.os.Bundle;
5 import android.view.View;
6 import android.widget.AdapterView;
7 import android.widget.ArrayAdapter;
8 import android.widget.Button;
9 import android.widget.EditText;
10 import android.widget.ListView;
11 import android.widget.Toast;
12
13 public class MainActivity extends AppCompatActivity implements
14     AdapterView.OnItemClickListener {
15     ListView todolist;
16     Button btn;
17     EditText item;
18     String[] lists = {"Complete assignment", "Buy groceries", "Call mom", "Walk dog", "Wash car"};
19     int counter = 2;
20
21     @Override
22     protected void onCreate(Bundle savedInstanceState) {
23         super.onCreate(savedInstanceState);
24         setContentView(R.layout.activity_main);
25         todolist = findViewById(R.id.listView);
26         btn = findViewById(R.id.button);
27         item = findViewById(R.id.editTextPersonName);
28         final ArrayAdapter<String> arrayAdapter = new
29             ArrayAdapter<String>(this, android.R.layout.simple_list_item_1, lists);
30         todolist.setAdapter(arrayAdapter);
31     }
32
33     @Override
34     public void onItemClick(AdapterView parent, View view, int position, long id) {
35         String itemText = parent.getItemAtPosition(position).toString();
36         if(itemText.equals("Complete assignment")) {
37             Toast.makeText(this, "Item completed", Toast.LENGTH_SHORT).show();
38         } else {
39             Toast.makeText(this, "Item removed", Toast.LENGTH_SHORT).show();
40         }
41     }
42
43     public void onClick(View v) {
44         switch(v.getId()) {
45             case R.id.button:
46                 String itemText = item.getText().toString();
47                 if(itemText.isEmpty())
48                     break;
49                 else {
50                     lists[counter] = itemText;
51                     arrayAdapter.notifyDataSetChanged();
52                     item.setText("");
53                 }
54                 break;
55         }
56     }
57 }
```





2. Design an app for a Cakes Shop to take orders from customer, which should include flavour, quantity, time and date of delivery, display the receipt of the orders. The App should include logo, back ground image with coloured text title.

Activity_main.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@drawable/cake1"
    tools:context=".MainActivity">

    <TextView android:id="@+id/textView10"
        android:layout_width="160dp"
        android:layout_height="37dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="237dp"
        android:layout_marginBottom="454dp"
        android:fontFamily="monospace"
        android:text="3:ButterScotch -₹499"
        android:textAlignment="center"
        android:textSize="15dp"
        android:textStyle="bold" />

    <TextView android:id="@+id/textView11"
        android:layout_width="wrap_content"
        android:layout_height="35dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
```

```
        android:layout_marginEnd="35dp"
        android:layout_marginBottom="456dp"
        android:fontFamily="monospace"
        android:text="4:Chocolate - ₹200"
        android:textAlignment="center"
        android:textSize="15dp"
        android:textStyle="bold" />

<TextView android:id="@+id/textView7"
        android:layout_width="250dp"
        android:layout_height="wrap_content"
        android:layout_above="@+id/textView5"
        android:layout_alignParentEnd="true"
        android:layout_marginEnd="158dp"
        android:layout_marginBottom="21dp"
        android:fontFamily="casual"
        android:text="Available Flavors:"
        android:textAlignment="center"
        android:textSize="20dp"
        android:textStyle="bold" />

<TextView android:id="@+id/textView4"
        android:layout_width="195dp"
        android:layout_height="40dp"
        android:layout_above="@+id/textView3"
        android:layout_marginEnd="27dp"
        android:layout_marginBottom="40dp"
        android:layout_toStartOf="@+id/flr"
        android:text="Flavour:"
        android:textAlignment="center"
        android:textSize="20dp"
        android:textStyle="bold"/>

<TextView android:id="@+id/textView3"
        android:layout_width="195dp"
        android:layout_height="40dp"
        android:layout_above="@+id/textView2"
        android:layout_marginEnd="27dp"
        android:layout_marginBottom="40dp"
        android:layout_toStartOf="@+id/qua"
        android:text="Quantity:"
        android:textAlignment="center"
        android:textSize="20dp"
        android:textStyle="bold"/>

<EditText android:id="@+id/qua"
        android:layout_width="190dp"
        android:layout_height="40dp"
        android:layout_above="@+id/editTextDate"
        android:layout_alignParentEnd="true"
        android:layout_marginEnd="20dp"
        android:layout_marginBottom="40dp" />

<TextView
        android:layout_width="wrap_content"
        android:layout_height="53dp"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_marginStart="78dp"
        android:layout_marginTop="75dp"
        android:layout_marginEnd="77dp"
        android:fontFamily="cursive"
        android:text="Order Now!"
```

```
        android:textAlignment="center"
        android:textColor="#000"
        android:textSize="40dp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

<EditText android:id="@+id/flr"
        android:layout_width="190dp"
        android:layout_height="40dp"
        android:layout_above="@+id/qua"
        android:layout_alignParentEnd="true"
        android:layout_marginEnd="20dp"
        android:layout_marginBottom="40dp"
        android:hint="1 / 2 / 3 / 4 "
        />

<EditText android:id="@+id/editTextTime"
        android:layout_width="118dp"
        android:layout_height="40dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="98dp"
        android:layout_marginBottom="131dp"
        android:ems="10"
        android:inputType="time" />

<EditText
        android:id="@+id/editTextDate"
        android:layout_width="106dp"
        android:layout_height="40dp"
        android:layout_above="@+id/editTextTime"
        android:layout_alignParentEnd="true"
        android:layout_marginEnd="104dp"
        android:layout_marginBottom="45dp"
        android:ems="10"
        android:inputType="date" />

<TextView
        android:id="@+id/textView"
        android:layout_width="196dp"
        android:layout_height="40dp"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="27dp"
        android:layout_marginBottom="126dp"
        android:layout_toStartOf="@+id/editTextTime"
        android:text="Time:"
        android:textAlignment="center"
        android:textSize="20dp"
        android:textStyle="bold"/>

<TextView android:id="@+id/textView2"
        android:layout_width="195dp"
        android:layout_height="40dp"
        android:layout_above="@+id/textView"
        android:layout_marginEnd="27dp"
        android:layout_marginBottom="40dp"
        android:layout_toStartOf="@+id/editTextDate"
        android:text="Date:"
        android:textAlignment="center"
```

```
    android:textSize="20dp"
    android:textStyle="bold"/>



<Button
```

```
    android:id="@+id/button"
    android:layout_width="183dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="121dp"
    android:layout_marginBottom="43dp"
    android:text="Place Order"
    android:textAlignment="center"
    android:textSize="20dp"
    android:textStyle="bold"
    android:onClick="Print_receipt"
    android:fontFamily="sans-serif-black"

    />

<TextView android:id="@+id/textView5"
    android:layout_width="163dp"
    android:layout_height="39dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="233dp"
    android:layout_marginBottom="505dp"
    android:fontFamily="monospace"
    android:text="1:Red Velvet -₹115.0"
    android:textAlignment="center"
    android:textSize="15dp"
    android:textStyle="bold" />

<TextView android:id="@+id/textView8"
    android:layout_width="149dp"
    android:layout_height="40dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="39dp"
    android:layout_marginBottom="507dp"
    android:fontFamily="monospace"
    android:text="2:Classic Red Velvet -₹212.5"
    android:textAlignment="center"
    android:textSize="15dp"
    android:textStyle="bold" />

<ImageButton android:id="@+id/imageButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="31dp"
    android:layout_marginBottom="214dp"
    android:onClick="getDate"
    app:srcCompat="@android:drawable/ic_menu_month" />

<ImageButton
    android:id="@+id/imageButton2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="31dp"
    android:layout_marginBottom="124dp"
    android:onClick="getTime"
    app:srcCompat="@android:drawable/ic_menu_recent_history" />
```

```
<ImageView  
    android:id="@+id/imageView"  
    android:layout_width="78dp"
```

```
    android:layout_height="86dp"
    app:srcCompat="@drawable/cake2" />
</RelativeLayout>
```

Main_activity.java:-

```
package com.example.my_cake_shop;

import android.app.DatePickerDialog; import
android.app.TimePickerDialog; import
android.content.Intent; import
android.os.Bundle; import android.view.View;
import android.widget.Button; import
android.widget.DatePicker; import
android.widget.EditText; import
android.widget.TimePicker; import
androidx.appcompat.app.AppCompatActivity; import
java.util.Calendar;

public class MainActivity extends AppCompatActivity {
    Button b1;
    EditText e1,e2,d,t;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        b1=findViewById(R.id.button);
        e1=findViewById(R.id.flr);
        e2=findViewById(R.id.qua);
        d=findViewById(R.id.editTextDate);
        t=findViewById(R.id.editTextTime);
    }
    public void Print_receipt(View view) {
        b1.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View v){
                openReceipt_Print();
            }
        });
    }

    public void openReceipt_Print() {
        String f,q,dt,tm;
        f=e1.getText().toString();
        q=e2.getText().toString();
        dt=d.getText().toString();
        tm=t.getText().toString();
        Intent intent = new Intent(this,Print_receipt.class);
        intent.putExtra("flavour",f);
        intent.putExtra("quantity",q);
        intent.putExtra("Date",dt);
        intent.putExtra("Time",tm); startActivity(intent);
    }

    public void getDate(View view) { final
        Calendar c = Calendar.getInstance(); final
        int mYear = c.get(Calendar.YEAR); final
```

```
int mMonth = c.get(Calendar.MONTH); final  
int mDate = c.get(Calendar.DATE);  
  
DatePickerDialog datePickerDialog = new DatePickerDialog(MainActivity.this,
```

```

        android.R.style.Theme_DeviceDefault_DialogWhenLarge, new DatePickerDialog.OnDateSetListener() {

            @Override
            public void onDateSet(DatePicker view, int year, int month, int date ) {
                d.setText(date+"-"+(month+1)+"-"+year);
            }
        },mYear,mMonth,mDate);
        datePickerDialog.show();
    }

    public void getTime(View view) { final
        Calendar c = Calendar.getInstance(); final
        int Hour = c.get(Calendar.HOUR); final int
        Minute = c.get(Calendar.MINUTE);

        TimePickerDialog timePickerDialog = new TimePickerDialog(this,
        android.R.style.Theme_DeviceDefault_DialogWhenLarge, new TimePickerDialog.OnTimeSetListener() {
            @Override
            public void onTimeSet(TimePicker view, int hourOfDay, int minute) {
                t.setText(hourOfDay+": "+minute);
            }
        },Hour,Minute,true);
        timePickerDialog.show();
    }
}

```

Activity_Print_receipt.xml:-

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@drawable/cake1" tools:context=".Print_receipt">

    <TextView android:id="@+id/ot2"
        android:layout_width="355dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="27dp"
        android:layout_marginBottom="384dp"
        android:fontFamily="sans-serif-condensed-medium"
        android:textAlignment="gravity"
        android:textSize="20dp" />

    <TextView android:id="@+id/ot3"
        android:layout_width="355dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="27dp"
        android:layout_marginBottom="298dp"
        android:fontFamily="sans-serif-condensed-medium"
        android:textAlignment="gravity"
        android:textSize="20dp" />

```

```
<TextView  
    android:id="@+id/textView9"  
    android:layout_width="304dp"
```

```
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="54dp"
        android:layout_marginBottom="632dp"
        android:fontFamily="cursive"
        android:text="The Cake Store"
        android:textAlignment="center"
        android:textSize="40dp"
        android:textStyle="bold" />

<TextView android:id="@+id/textView6"
        android:layout_width="304dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="54dp"
        android:layout_marginBottom="585dp"
        android:fontFamily="cursive"
        android:text="Order Summary"
        android:textAlignment="center"
        android:textSize="30dp"
        android:textStyle="bold" />

<TextView android:id="@+id/ot1"
        android:layout_width="355dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="27dp"
        android:layout_marginBottom="465dp"
        android:fontFamily="sans-serif-condensed-medium"
        android:textAlignment="gravity"
        android:textSize="20dp" />

<TextView android:id="@+id/ot5"
        android:layout_width="355dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="29dp"
        android:layout_marginBottom="128dp"
        android:fontFamily="sans-serif-condensed-medium"
        android:textAlignment="gravity"
        android:textSize="20dp" />

<TextView android:id="@+id/ot"
        android:layout_width="355dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="27dp"
        android:layout_marginBottom="29dp"
        android:fontFamily="cursive"
        android:text="Thank you...Plz Visit Us Again!!"
        android:textAlignment="center"
        android:textSize="20dp"
        android:textStyle="bold" />

<TextView android:id="@+id/ot4"
        android:layout_width="355dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
```

```
        android:layout_marginEnd="27dp"
        android:layout_marginBottom="210dp"
        android:fontFamily="sans-serif-condensed-medium"
        android:textAlignment="gravity"
        android:textSize="20dp" />

<View android:id="@+id/divider"
      android:layout_width="match_parent"
      android:layout_height="5dp"
      android:layout_alignParentStart="true"
      android:layout_alignParentBottom="true"
      android:layout_marginStart="-2dp"
      android:layout_marginBottom="552dp"
      android:background="?android:attr/listDivider" />

<View android:id="@+id/divider2"
      android:layout_width="match_parent"
      android:layout_height="5dp"
      android:layout_alignParentStart="true"
      android:layout_alignParentBottom="true"
      android:layout_marginStart="1dp"
      android:layout_marginBottom="85dp"
      android:background="?android:attr/listDivider" />

<ImageView
    android:id="@+id/imageView"
    android:layout_width="78dp"
    android:layout_height="86dp"
    app:srcCompat="@drawable/cake2"
    />

</RelativeLayout>
```

Print_receipt.java:-

```
package com.example.my_cake_shop; import  
androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.AutoCompleteTextView;  
import android.widget.EditText; import  
android.widget.TextView;  
  
public class Print_receipt extends AppCompatActivity {  
    TextView t1,t2,t3,t4,t5;  
    Double amt,qua;  
    int i;  
    String s,f,q,dt,tm;  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_print_receipt);  
        Intent intent=getIntent();  
        f=intent.getStringExtra("flavour");  
        q=intent.getStringExtra("quantity");  
        dt=intent.getStringExtra("Date");  
        tm=intent.getStringExtra("Time");  
  
        t1 = findViewById(R.id.ot1);  
        t2 = findViewById(R.id.ot2);
```

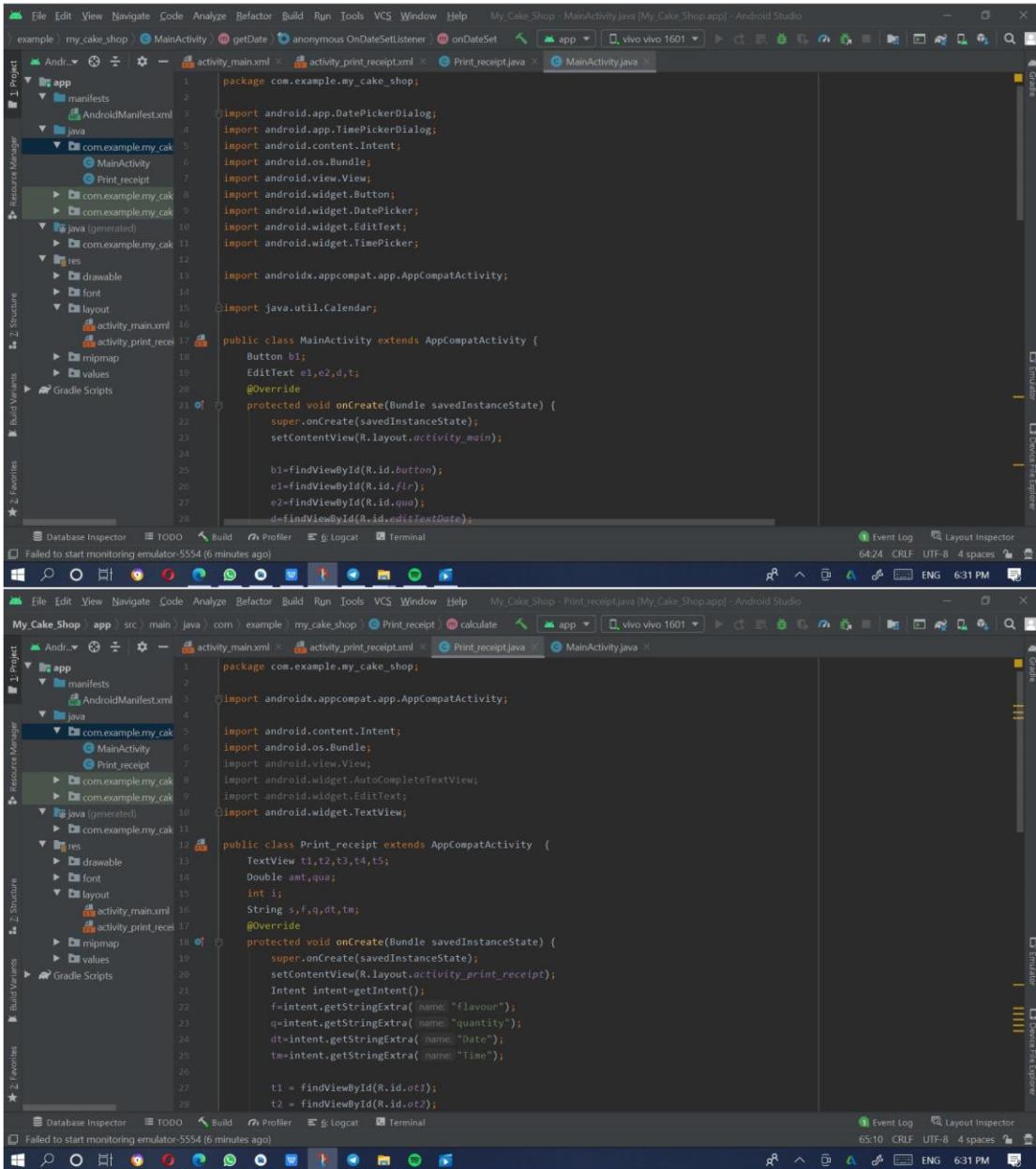
```
t3 = findViewById(R.id.ot3);
t4 = findViewById(R.id.ot4);
t5 = findViewById(R.id.ot5);
qua = Double.parseDouble(q);
i = Integer.parseInt(f);
calculate();
}

void calculate()
{ if (i==1) { s="Red
Velvet";
amt = qua * 115.0;
} if (i==2) { s="Classic
Red Velevt"; amt = qua *
212.5;
} if (i==3)
{
    s="ButterScotch";
    amt = qua * 499.0;
} if (i==4)
{
    s="Chocolate";
    amt = qua * 200.0;
} else{ t3.setText("Selected Flavour not available. Please select
again!");
}

if(i==1 || i==2 || i==3 || i==4){
    t1.setText("Flavour:"+s);
    t2.setText("Quantity:"+qua);
    t3.setText("Amount:"+amt);
    t4.setText("Date:"+dt);
    t5.setText("Time:"+tm+" (24 hrs Format)");
}

}
```

ScreenShots:-



3. Design a Result app to display the CGPA on choosing the menu item. Create four option menus representing each year, each menu has sub menu items of two semesters.

Activity_main.xml:-

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

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

```

        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent" app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    </androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java:-

```

package com.example.testmenu;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle; import android.view.Menu;
import android.view.MenuInflater; import
android.view.MenuItem; import android.widget.Toast;
public class MainActivity extends AppCompatActivity {

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

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater menuInflater=getMenuInflater();
        menuInflater.inflate(R.menu.my_menu,menu);
        return super.onCreateOptionsMenu(menu);
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        int id =item.getItemId(); switch (id){ case R.id.sem_1:
            Toast.makeText(this,"CGPA=6.0",Toast.LENGTH_LONG).show();
            break;
        case R.id.sem_2:
            Toast.makeText(this,"CGPA=7.5",Toast.LENGTH_LONG).show();
            break;
        case R.id.sem_3:
            Toast.makeText(this,"CGPA=8.0",Toast.LENGTH_LONG).show();
            break;
        case R.id.sem_4:
            Toast.makeText(this,"CGPA=8.3",Toast.LENGTH_LONG).show();
            break;
        case R.id.sem_5:
            Toast.makeText(this,"CGPA=8.5",Toast.LENGTH_LONG).show();
            break;
        case R.id.sem_6:
            Toast.makeText(this,"CGPA=8.8",Toast.LENGTH_LONG).show();
            break;
        case R.id.sem_7:
    }
}

```

```
    Toast.makeText(this, "CGPA=9.0", Toast.LENGTH_LONG).show();  
break; case R.id.sem_8:
```

```

        Toast.makeText(this, "CGPA=9.1", Toast.LENGTH_LONG).show();
        break;
    }
    return super.onOptionsItemSelected(item);
}
}

```

Mymenu.xml:-

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">

    <item android:id="@+id/year1"
          android:title="2017"
          android:icon="@mipmap/ic_launcher">
        <menu>
            <item android:id="@+id/sem_1" android:title="semester-1"/>
            <item android:id="@+id/sem_2" android:title="semester-2"/>
        </menu>
    </item>

    <item android:id="@+id/year2"
          android:title="2018">
        <menu>
            <item android:id="@+id/sem_3" android:title="semester-3"/>
            <item android:id="@+id/sem_4" android:title="semester-4"/>
        </menu>
    </item>

    <item android:id="@+id/year3"
          android:title="2019">
        <menu>
            <item android:id="@+id/sem_5" android:title="semester-5"/>
            <item android:id="@+id/sem_6" android:title="semester-6"/>
        </menu>
    </item>

    <item android:id="@+id/year4"
          android:title="2020">
        <menu>
            <item android:id="@+id/sem_7" android:title="semester-7"/>
            <item android:id="@+id/sem_8" android:title="semester-8"/>
        </menu>
    </item>
</menu>

```

Screen Shots:-

Screenshot of the Android Studio interface showing the code editor for `MainActivity.java`. The code implements the `onCreate`, `onCreateOptionsMenu`, and `onOptionsItemSelected` methods. It uses `Toast.makeText` to display messages for CGPA values of 6.0 and 7.5.

```
package com.example.testmenu;

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

public class MainActivity extends AppCompatActivity {

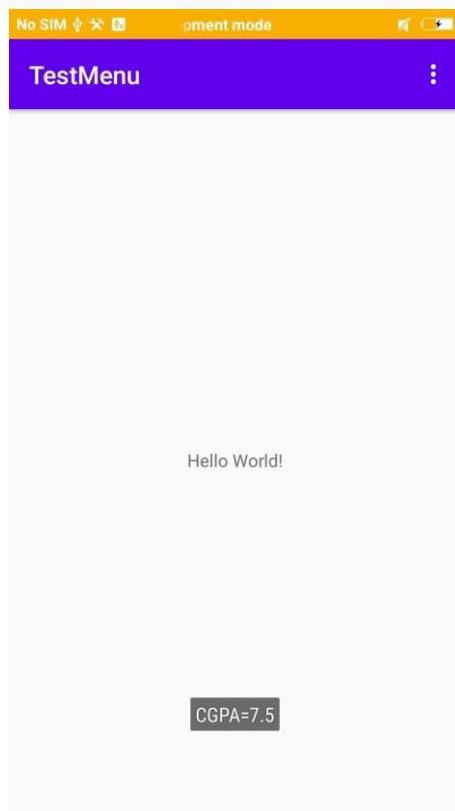
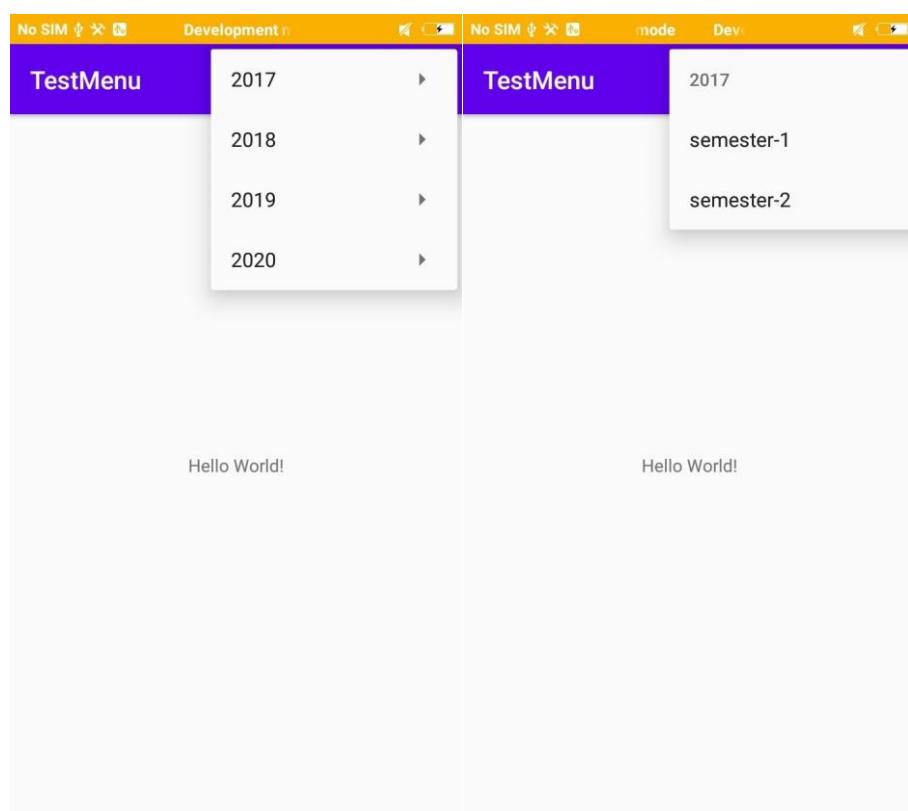
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.my_menu, menu);
        return super.onCreateOptionsMenu(menu);
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        int id = item.getItemId();
        switch (id) {
            case R.id.sem_1:
                Toast.makeText(this, "CGPA=6.0", Toast.LENGTH_LONG).show();
                break;
            case R.id.sem_2:
                Toast.makeText(this, "CGPA=7.5", Toast.LENGTH_LONG).show();
                break;
        }
        return super.onOptionsItemSelected(item);
    }
}
```

Screenshot of the Android Studio interface showing the XML code for `my_menu.xml`. It defines three menus: `year1`, `year2`, and `year3`, each containing two items for semesters 1 and 2.

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:id="@+id/year1"
          android:title="2017"
          android:icon="@mipmap/ic_launcher">
        <menu>
            <item android:id="@+id/sem_1"
                  android:title="semester-1"/>
            <item android:id="@+id/sem_2"
                  android:title="semester-2"/>
        </menu>
    </item>
    <item android:id="@+id/year2"
          android:title="2018">
        <menu>
            <item android:id="@+id/sem_3"
                  android:title="semester-3"/>
            <item android:id="@+id/sem_4"
                  android:title="semester-4"/>
        </menu>
    </item>
    <item android:id="@+id/year3"
          android:title="2019">
        <menu>
            <item android:id="@+id/sem_5"
                  android:title="semester-5"/>
            <item android:id="@+id/sem_6"
                  android:title="semester-6"/>
        </menu>
    </item>
</menu>
```



5. Create an activity to generate a random score on clicking a button in the first activity. In the second activity, generate another random score on clicking button2. Find the total score and display the score in third Activity.

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
```

```

xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity"
android:background="@drawable/ic_launcher_background">

<TextView android:layout_width="264dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="75dp"
    android:layout_marginBottom="630dp"
    android:text="First Screen!"
    android:textAlignment="center"
    android:textSize="40sp"
    android:textStyle="bold"
    android:textColor="#FFF"

/>

<Button android:id="@+id/button"
    android:layout_width="372dp"
    android:layout_height="77dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="20dp"
    android:layout_marginBottom="201dp"
    android:text="Click to go to next page"
    android:onClick="next"/>

<TextView
    android:id="@+id/tv1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="189dp"
    android:layout_marginBottom="355dp"
    android:hint="click the Gen button to generate a number"
    android:textColor="#000" android:textSize="20sp"
    android:textAlignment="center"/>

<Button android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="59dp"
    android:layout_marginBottom="360dp"
    android:text="GEN"
    android:onClick="genrate"/>

</RelativeLayout>

```

MainActivity.java:-

```

package com.example.ayesharandomscore_0101;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;

```

```
import android.os.Bundle;
import android.view.View;
import
android.widget.TextView;
import java.util.Random;

public class MainActivity extends AppCompatActivity {
    TextView t1;
    int n;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1=findViewById(R.id.tv1);
    }

    public void generate(View view) {
        Random r=new Random();
        n=r.nextInt(100);
        t1.setText(String.valueOf(n));
    }

    public void next(View view) {
        Intent isend=new
        Intent(getApplicationContext(),SecondActivity.class);
        isend.putExtra("num",String.valueOf(n)); startActivity(isend);
    }
}
```

Secondactivity.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent" tools:context=".SecondAcitvity"
    android:background="#FFF">

    <TextView android:layout_width="304dp"
        android:layout_height="103dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="56dp"
        android:layout_marginBottom="584dp"
        android:text="Second Screen!"
        android:textAlignment="center"
        android:textColor="#222"
        android:textSize="40sp"
        android:textStyle="bold"
    />

    <Button android:id="@+id/button"
        android:layout_width="372dp"
        android:layout_height="77dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="20dp"
        android:layout_marginBottom="201dp"
        android:text="Click to go to next page"
        android:onClick="next_2"/>
```

```

<TextView android:id="@+id/tv1"
    android:layout_width="226dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="175dp"
    android:layout_marginBottom="336dp"
    android:hint="click the Gen button to generate second random number"
    android:textColor="#222" android:textSize="20sp"
    android:textAlignment="center"/>

<Button android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="59dp"
    android:layout_marginBottom="360dp"
    android:text="GEN"
    android:onClick="genrate_2"/>

</RelativeLayout>

```

Second.java:-

```

package com.example.ayesharandomscore_0101;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import
android.widget.TextView;
import java.util.Random;

public class SecondActivity extends AppCompatActivity {
    TextView t1;
    String n1;
    int n;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        t1=findViewById(R.id.tv1);
    }

    public void genrate_2(View view) {
        Random r=new Random();
        n=r.nextInt(100);
        t1.setText(String.valueOf(n));
    }

    public void next_2(View view) {
        Intent iget=getIntent();
        n1=iget.getStringExtra("num");
    }
}

```

```
Intent isend2=new Intent(getApplicationContext(),third.class);
```

```

        isend2.putExtra("num1",n1);
        isend2.putExtra("num2",String.valueOf(n));
        startActivity(isend2);
    }
}

```

Third.xml:

```

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

    <TextView android:layout_width="304dp"
        android:layout_height="103dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="56dp"
        android:layout_marginBottom="584dp"
        android:text="Third Screen!"
        android:textAlignment="center"
        android:textColor="#222"
        android:textSize="40sp"
        android:textStyle="bold"

    />

    <TextView android:id="@+id/tv1"
        android:layout_width="302dp"
        android:layout_height="65dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="56dp"
        android:layout_marginBottom="397dp"
        android:hint="num1"
        android:textAlignment="center"
        android:textColor="#222"
        android:textSize="25sp"
        android:textStyle="bold" />

    <TextView android:id="@+id/tv2"
        android:layout_width="302dp"
        android:layout_height="65dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="58dp"
        android:layout_marginBottom="292dp"
        android:hint="num2"
        android:textAlignment="center"
        android:textColor="#222"
        android:textSize="25sp"

        android:textStyle="bold" />

    <TextView android:id="@+id/tv3"
        android:layout_width="302dp"

```

```

        android:layout_height="65dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="59dp"
        android:layout_marginBottom="185dp"
        android:hint="SUM"
        android:textAlignment="center"
        android:textColor="#222"
        android:textSize="25sp"
        android:textStyle="bold" />

    </RelativeLayout>

```

Third.java:-

```

package com.example.ayesharandomscore_0101;

import androidx.appcompat.app.AppCompatActivity;

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

public class third extends AppCompatActivity {
    TextView t1, t2, t3;
    String n1, n2; int
    num1, num2, sum;

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

        t1 = findViewById(R.id.tv1);
        t2 = findViewById(R.id.tv2);
        t3 = findViewById(R.id.tv3);

        Intent iget2 = getIntent(); n1 =
        iget2.getStringExtra("num1"); n2 =
        iget2.getStringExtra("num2");

        num1 = Integer.parseInt(n1);
        num2 = Integer.parseInt(n2);
        sum = num1 + num2;

        t1.setText("First Number=" + n1);
        t2.setText("Second Number=" + n2);
        t3.setText("Sum=" + String.valueOf(sum));

    }
}

```

Screenshots:-

ayesharandomscore_0101 - MainActivity.java [ayesharandomscore_0101.app] - Android Studio

```
1 package com.example.ayesharandomscore_0101;
2
3 import androidx.appcompat.app.AppCompatActivity;
4
5 import android.content.Intent;
6 import android.os.Bundle;
7 import android.view.View;
8 import android.widget.TextView;
9
10 import java.util.Random;
11
12 public class MainActivity extends AppCompatActivity {
13     TextView t1;
14     int n;
15
16     @Override
17     protected void onCreate(Bundle savedInstanceState) {
18         super.onCreate(savedInstanceState);
19         setContentView(R.layout.activity_main);
20         t1=findViewById(R.id.tv1);
21     }
22
23     public void generate(View view) {
24         Random r=new Random();
25         n=r.nextInt( bound: 100 );
26         t1.setText(String.valueOf(n));
27     }
28 }
```

Event Log Layout Inspector

Success: Operation succeeded (4 minutes ago)

7:25 CRLF UTF-8 4 spaces ENG 6:57 PM

ayesharandomscore_0101 - SecondActivity.java [ayesharandomscore_0101.app] - Android Studio

```
1 package com.example.ayesharandomscore_0101;
2
3 import androidx.appcompat.app.AppCompatActivity;
4
5 import android.content.Intent;
6 import android.os.Bundle;
7 import android.view.View;
8 import android.widget.TextView;
9
10 import java.util.Random;
11
12 public class SecondActivity extends AppCompatActivity {
13     TextView t1;
14     String n1;
15     int n;
16
17     @Override
18     protected void onCreate(Bundle savedInstanceState) {
19         super.onCreate(savedInstanceState);
20         setContentView(R.layout.activity_second);
21         t1=findViewById(R.id.tv1);
22     }
23
24     public void generate_2(View view) {
25         Random r=new Random();
26         n=r.nextInt( bound: 100 );
27         t1.setText(String.valueOf(n));
28     }
29 }
```

Event Log Layout Inspector

Success: Operation succeeded (4 minutes ago)

7:26 CRLF UTF-8 4 spaces ENG 6:57 PM

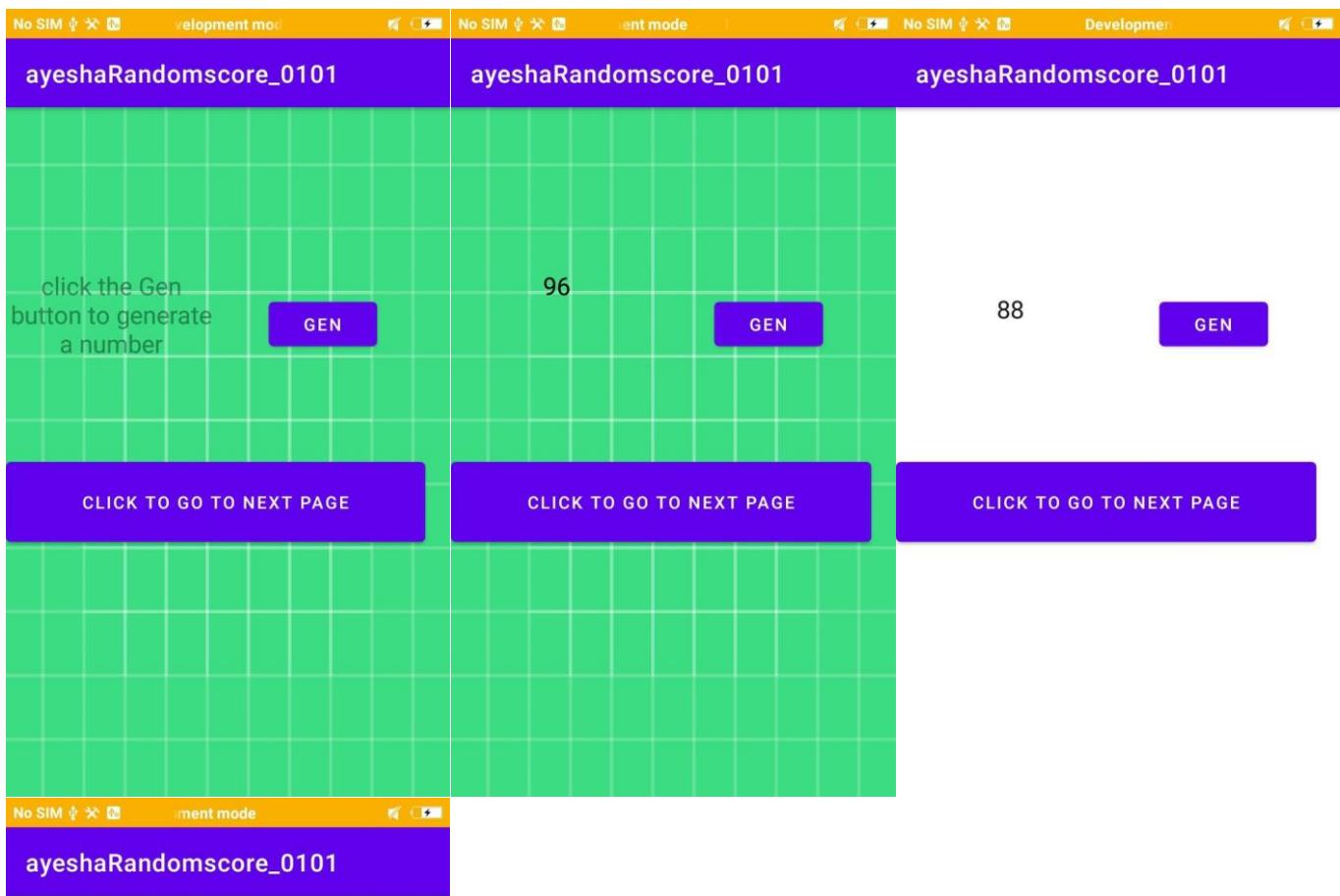
ayesharandomscore_0101 - third.java [ayesharandomscore_0101.app] - Android Studio

```
1 package com.example.ayesharandomscore_0101;
2
3 import androidx.appcompat.app.AppCompatActivity;
4
5 import android.content.Intent;
6 import android.os.Bundle;
7 import android.widget.TextView;
8
9 public class third extends AppCompatActivity {
10     TextView t1, t2, t3;
11     String n1, n2;
12     int num1, num2, sum;
13
14     @Override
15     protected void onCreate(Bundle savedInstanceState) {
16         super.onCreate(savedInstanceState);
17         setContentView(R.layout.activity_third);
18
19         t1 = findViewById(R.id.tv1);
20         t2 = findViewById(R.id.tv2);
21         t3 = findViewById(R.id.tv3);
22
23         Intent iget2 = getIntent();
24         n1 = iget2.getStringExtra( name: "num1");
25         n2 = iget2.getStringExtra( name: "num2");
26
27         num1 = Integer.parseInt(n1);
28         num2 = Integer.parseInt(n2);
29     }
30 }
```

Event Log Layout Inspector

Success: Operation succeeded (4 minutes ago)

28:37 CRLF UTF-8 4 spaces ENG 6:57 PM



First Number=96

Second Number=88

Sum=184

6. Develop an android app that uses fragment to maintain the following scenario. Maintain a list of images in the fragment one which is labelled by user friendly name. When the user select image from the fragment one, the corresponding image's description should be displayed on fragment two.

Activitymain.xml:-

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

```

        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:context=".MainActivity"
        android:orientation="vertical">
    <TextView android:id="@+id/texrt1"
        android:textAlignment="center"
        android:layout_width="match_parent"
        android:textColor="@android:color/holo_green_light"
        android:text="App Details" android:textSize="40dp"
        android:layout_height="50dp"/>
    <ImageView android:id="@+id/btn1"
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:onClick="Changefragment"
        android:background="@drawable/flower1"
        app:layout_constraintBottom_toBottomOf="@+id/texrt1"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        android:layout_marginTop="10dp"
        android:layout_marginBottom="10dp"
        app:layout_constraintVertical_bias="0.041" />
    <ImageView android:id="@+id/bt2"
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:onClick="Changefragment"
        android:background="@drawable/flower2"
        app:layout_constraintBottom_toBottomOf="parent"
        android:layout_marginBottom="10dp"
        android:layout_marginTop="10dp"
        app:layout_constraintEnd_toEndOf="@+id/btn1"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.142" />
    <fragment android:id="@+id/fragment2"
        android:name="com.example.ayeshafragment_0101.fragment1"
        android:layout_width="match_parent"
        android:layout_height="360dp" />
</LinearLayout>

```

MainActivity.java:-

```

package com.example.ayeshafragment_0101; import
androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import androidx.fragment.app.Fragment; import
androidx.fragment.app.FragmentManager; import
androidx.fragment.app.FragmentTransaction; import
android.view.View; public class MainActivity extends
AppCompatActivity {

    @Override

```

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

```

    }
    public void Changefragment(View view) {
        Fragment fragment;
        FragmentManager fm= getSupportFragmentManager();
        FragmentTransaction ft =fm.beginTransaction();
        if(view == findViewById(R.id.btn1)){
            fragment = new fragment2();
            ft.replace(R.id.fragment2,fragment);
            ft.commit();
        }
        if(view == findViewById(R.id.bt2)){
            fragment = new fragment1();
            ft.replace(R.id.fragment2,fragment);
            ft.commit();
        }
    }
}

```

Fragment1.xml:-

```

<?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"
    tools:context=".fragment1">

    <!-- TODO: Update blank fragment Layout -->
    <TextView
        android:layout_marginLeft="50dp"
        android:layout_marginTop="50dp"
        android:layout_marginBottom="50dp"
        android:layout_marginRight="50dp"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:background="#ccff66"
        android:textAlignment="center"
        android:padding="50dp"
        android:textSize="25dp"
        android:text="ludo game \n fun game \n famous in indian market"
        />
</FrameLayout>

```

Fragment1.java:-

```

package com.example.ayeshafragment_0101;

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.fragment_fragment1, container, false);
    }
}
```

Fragment2.xml:-

```
<?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"
    tools:context=".fragment2">

    <!-- TODO: Update blank fragment layout -->
    <TextView
        android:layout_marginLeft="50dp"
        android:layout_marginTop="50dp"
        android:layout_marginBottom="50dp"
        android:layout_marginRight="50dp"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:background="#ffcccc"
        android:textAlignment="center"
        android:padding="50dp"
        android:textSize="25dp"
        android:text="music player\n create by:\nSubhajeet Roy"
        />

</FrameLayout>
```

Fragment2.java:-

```
package com.example.ayeshafragment_0101;

import android.os.Bundle;

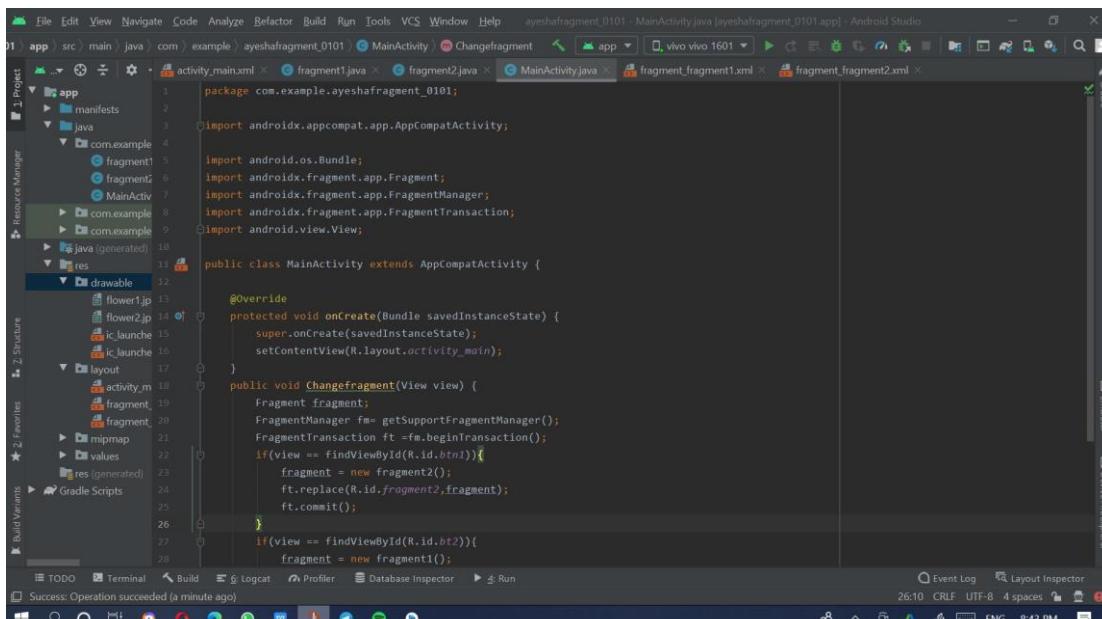
import androidx.fragment.app.Fragment;

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.fragment_fragment2, container, false);
    }
}
```

ScreenShots:-



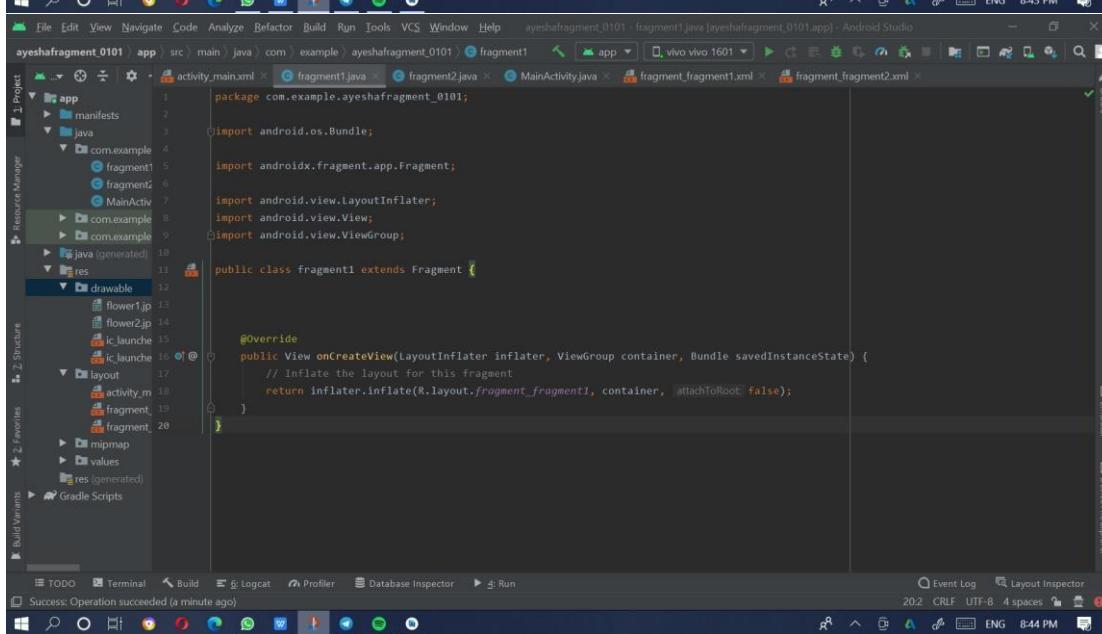
The screenshot shows the Android Studio interface with the project 'ayeshafragment_0101' open. The main focus is on the 'MainActivity.java' file under the 'app/src/main/java/com/example/ayeshafragment_0101' package. The code implements a fragment transaction logic based on button clicks:

```
package com.example/ayeshafragment_0101;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentManager;
import androidx.fragment.app.FragmentTransaction;
import android.view.View;

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

    public void Changefragment(View view) {
        FragmentManager fm = getSupportFragmentManager();
        FragmentTransaction ft = fm.beginTransaction();
        if(view == findViewById(R.id.btn1)){
            fragment = new fragment2();
            ft.replace(R.id.fragment, fragment);
            ft.commit();
        }
        if(view == findViewById(R.id.btn2)){
            fragment = new fragment1();
            ft.commit();
        }
    }
}
```

The bottom status bar indicates the device is a 'vivo vivo 1601'.

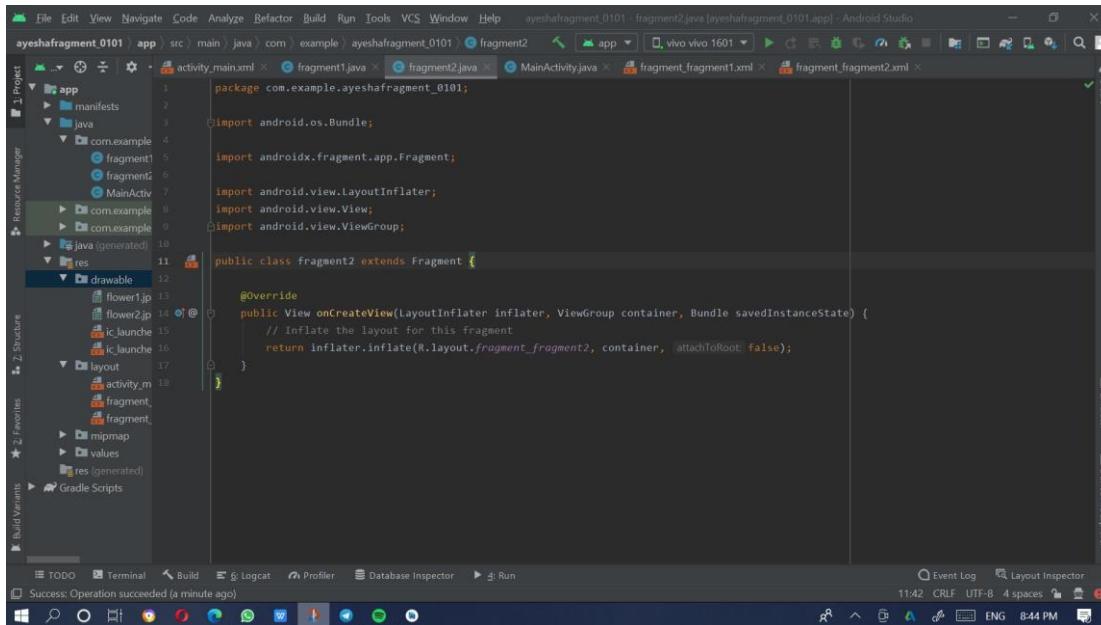


The screenshot shows the Android Studio interface with the project 'ayeshafragment_0101' open. The main focus is on the 'fragment1.java' file under the 'app/src/main/java/com/example/ayeshafragment_0101' package. This fragment class overrides the onCreateView method to inflate its layout:

```
package com.example/ayeshafragment_0101;
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.fragment_fragment1, container, false);
    }
}
```

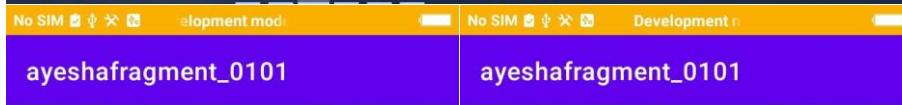
The bottom status bar indicates the device is a 'vivo vivo 1601'.



```
ayeshafragment_0101 : app : src : main : java : com : example : ayeshafragment_0101 : fragment2
```

```
package com.example.ayeshafragment_0101;
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.fragment_fragment2, container, false);
    }
}
```



App Details



App Details



ludo game
fun game
famous in
indian market

music player
create by:
Subhajeet Roy

7. Create an application for banking. The bank requires the customer to maintain Rs. 5000 as minimum balance. If the customer doesn't maintain the minimum balance, notify the user about the insufficient funds. The notification message informs the customer about the available amount and the balance to be maintained.

Activity.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent" tools:context=".MainActivity"
    android:background="#222222">

    <Button android:id="@+id/button"
        android:layout_width="246dp"
        android:layout_height="67dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="81dp"
        android:layout_marginBottom="60dp"
        android:background="#808080"
        android:onClick="check"
        android:text="CHECK"
        android:textAlignment="center"
        android:textColor="#FFF"
        android:textSize="25sp" />

    <TextView android:id="@+id/textView3"
        android:layout_width="223dp"
        android:layout_height="54dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="181dp"
        android:layout_marginBottom="304dp"
        android:text="Account balance:"
        android:textAlignment="center"

        android:textColor="#FFF"
        android:textSize="25sp" />

    <EditText android:id="@+id/ed2"
        android:layout_width="188dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="3dp"
        android:layout_marginBottom="304dp"
        android:textColor="#FFF"
        android:textSize="25sp"/>

    <EditText android:id="@+id/ed1"
        android:layout_width="188dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="12dp"
        android:layout_marginBottom="478dp"
        android:textColor="#FFF"
        android:textSize="25sp"/>

    <TextView
        android:id="@+id/textView2"
        android:layout_width="180dp"
        android:layout_height="40dp"
```

```

        android:layout_alignParentBottom="true"
        android:layout_marginEnd="32dp"
        android:layout_marginBottom="483dp"
        android:layout_toStartOf="@+id/ed1"
        android:text="Name:"

        android:textAlignment="center"
        android:textColor="#FFF"
        android:textSize="25sp" />

<View android:id="@+id/divider"
      android:layout_width="match_parent"
      android:layout_height="10dp"
      android:layout_alignParentBottom="true"
      android:layout_marginBottom="577dp"
      android:background="?android:attr/listDivider" />

<View android:id="@+id/divider2"
      android:layout_width="match_parent"
      android:layout_height="10dp"
      android:layout_alignParentBottom="true"
      android:layout_marginBottom="239dp"
      android:background="?android:attr/listDivider" />

<TextView android:id="@+id/textView"
          android:layout_width="262dp"
          android:layout_height="wrap_content"
          android:layout_alignParentTop="true"
          android:layout_alignParentEnd="true"
          android:layout_marginTop="50dp"
          android:layout_marginEnd="75dp"
          android:layout_marginBottom="50dp"
          android:fontFamily="cursive"
          android:text="BANK ACCOUNT DETAILS"
          android:textAlignment="center"

          android:textColor="#FFF"
          android:textSize="30sp"
          android:textStyle="bold" />
</RelativeLayout>

```

Mainactivity.java:-

```

package com.example.ayeshabank_0101;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.NotificationCompat; import
androidx.core.app.NotificationManagerCompat;

import android.app.NotificationChannel; import
android.app.NotificationManager; import
android.os.Build; import android.os.Bundle; import
android.view.View; import android.widget.EditText;
import android.widget.Toast; public class
MainActivity extends AppCompatActivity {

    public static final String CHANNEL_ID="1";
    public static final String CHANNEL_NAME="PU";
    public static final String CHANNEL_DESC="PU Notification Channel1";
}

```

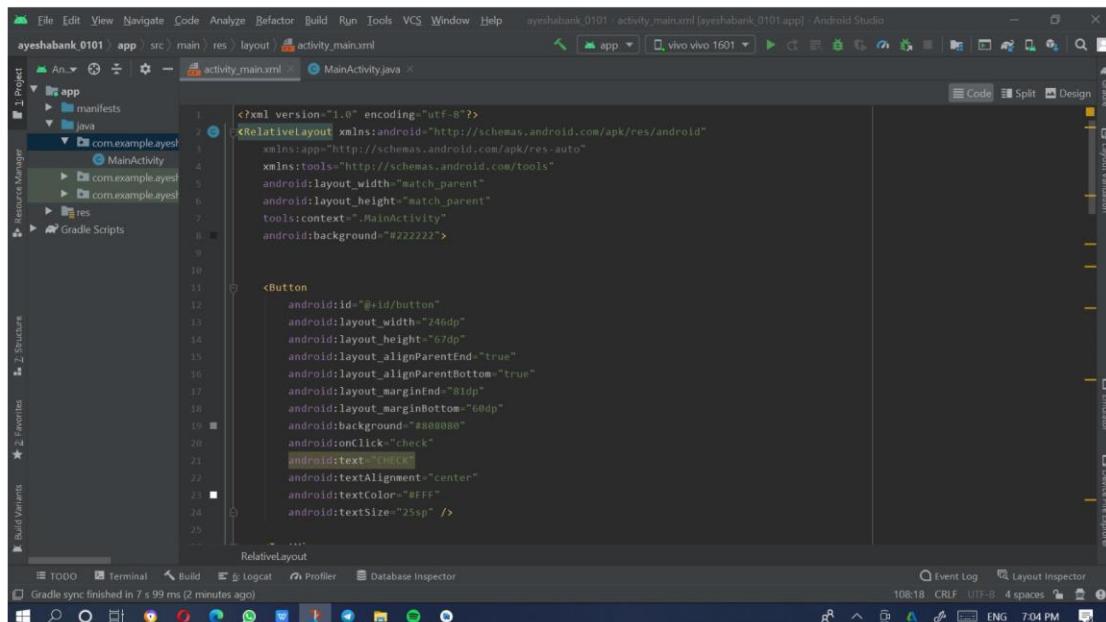
```

EditText e;
int value;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    e=findViewById(R.id.ed2);
    if(Build.VERSION.SDK_INT>=Build.VERSION_CODES.O) {
        NotificationChannel channel = new NotificationChannel(CHANNEL_ID, CHANNEL_NAME,
NotificationManager.IMPORTANCE_DEFAULT);
        channel.setDescription(CHANNEL_DESC);
        NotificationManager manager = getSystemService(NotificationManager.class);
        manager.createNotificationChannel(channel);
    }
}
public void check(View view) {
    value=Integer.parseInt(e.getText().toString());
    if(value<5000)
    {
        Toast.makeText(this,"LOW ACCOUNT BALANCE", Toast.LENGTH_SHORT).show();
        NotificationCompat.Builder mBuilder = new NotificationCompat.Builder(this,CHANNEL_ID)
            .setSmallIcon(R.drawable.ic_launcher_background)
            .setContentTitle("XYZ BANK LOW ACCOUNT BALANCE NOTIFICATION")
            .setContentText("You have low account balance must maintain 5000 Your actual Balance
is:"+value)
            .setPriority(NotificationCompat.PRIORITY_DEFAULT);

        NotificationManagerCompat notificationManagerCompat = NotificationManagerCompat.from(this);
        notificationManagerCompat.notify(1,mBuilder.build());
    }
    else
    {
        Toast.makeText(this,"MINIMUM ACCOUNT BALANCE MAINTAINED", Toast.LENGTH_SHORT).show();
    }
}
}

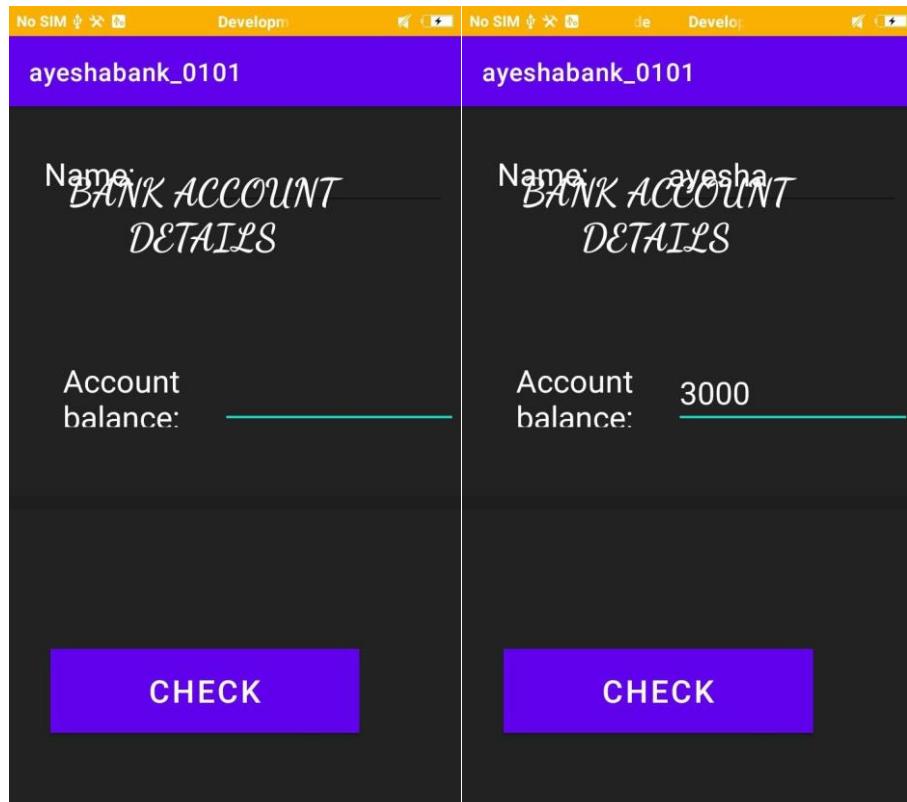
```

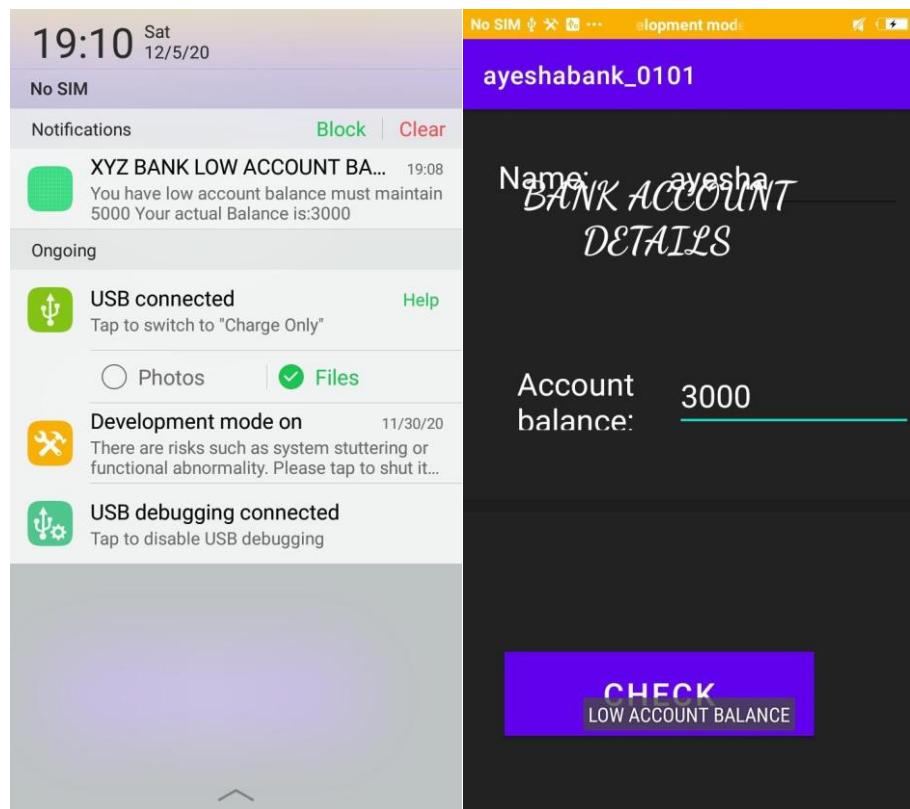
Screenshots:-



The screenshot shows the Android Studio interface with the code editor open to MainActivity.java. The code implements a Notification Channel for Android 8.0+ devices. It defines static final strings for CHANNEL_ID ("1"), CHANNEL_NAME ("PU"), and CHANNEL_DESC ("PU Notification Channel"). In the onCreate method, it creates a NotificationChannel object and sets its importance to IMPORTANCE_DEFAULT.

```
package com.example.ayeshabank_0101;
import androidx.appcompat.app.AppCompatActivity;
import android.app.NotificationCompat;
import android.app.NotificationManager;
import android.app.NotificationChannel;
import android.app.NotificationManagerCompat;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    public static final String CHANNEL_ID="1";
    public static final String CHANNEL_NAME="PU";
    public static final String CHANNEL_DESC="PU Notification Channel";
    EditText e;
    int value;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e=findViewById(R.id.ed2);
        if(Build.VERSION.SDK_INT>Build.VERSION_CODES.O) {
            NotificationChannel channel = new NotificationChannel(CHANNEL_ID, CHANNEL_NAME, NotificationManager.IMPORTANCE_DEFAULT);
        }
    }
}
```





8. Create an application to show the available battery level in the mobile. Use broadcast receiver.

Activity.xml:-

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

    <TextView android:id="@+id/textView"
        android:layout_width="367dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="22dp"
        android:layout_marginBottom="591dp"
        android:fontFamily="cursive"
        android:text="Battery Level Using Broadcast"
        android:textAlignment="center"
        android:textSize="40sp"

    />

    <TextView android:id="@+id/tv1"
        android:layout_width="357dp"
        android:layout_height="82dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="24dp"
        android:layout_marginBottom="344dp"
        android:fontFamily="serif-monospace"
        android:textSize="30sp"
    </TextView>
</RelativeLayout>
```

```
        android:textAlignment="center"/>  
  
</RelativeLayout>
```

Mainactivity.java:-

```
package com.example.ayeshabattery_0101; import  
androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent; import  
android.content.IntentFilter; import  
android.os.Bundle; import android.widget.TextView;  
public class MainActivity extends AppCompatActivity  
{  
  
    com.example.ayeshabattery_0101.MyBroadCastReceiver m;  
    TextView t1;  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
  
        t1=findViewById(R.id.tv1);  
        m=new com.example.ayeshabattery_0101.MyBroadCastReceiver(t1);  
  
    }  
  
    @Override  
    protected void onStart()  
    { registerReceiver(m,new IntentFilter(Intent.ACTION_BATTERY_CHANGED));  
        super.onStart();  
    }  
  
    @Override  
    protected void onStop()  
    { super.onStop();  
        unregisterReceiver(m);  
    }  
}
```

MyBroadcastReceiver:-

```
package com.example.ayeshabattery_0101;  
  
import android.content.BroadcastReceiver; import  
android.content.Context; import android.content.Intent;  
import android.os.BatteryManager; import
```

```
android.widget.TextView; public class MyBroadCastReceiver  
extends BroadcastReceiver {  
  
    TextView t1;
```

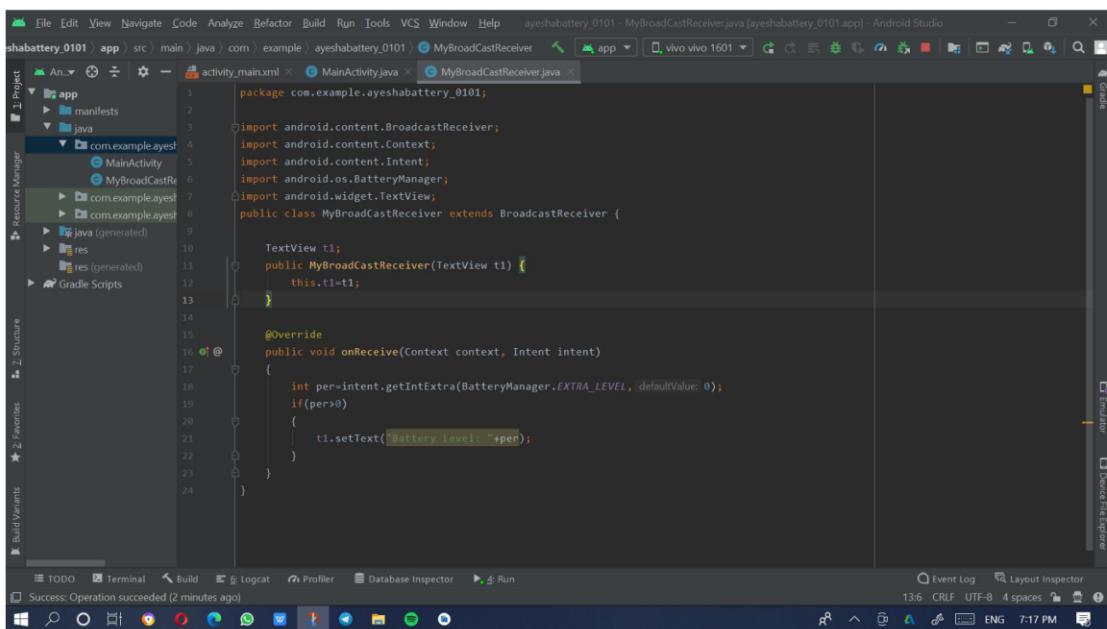
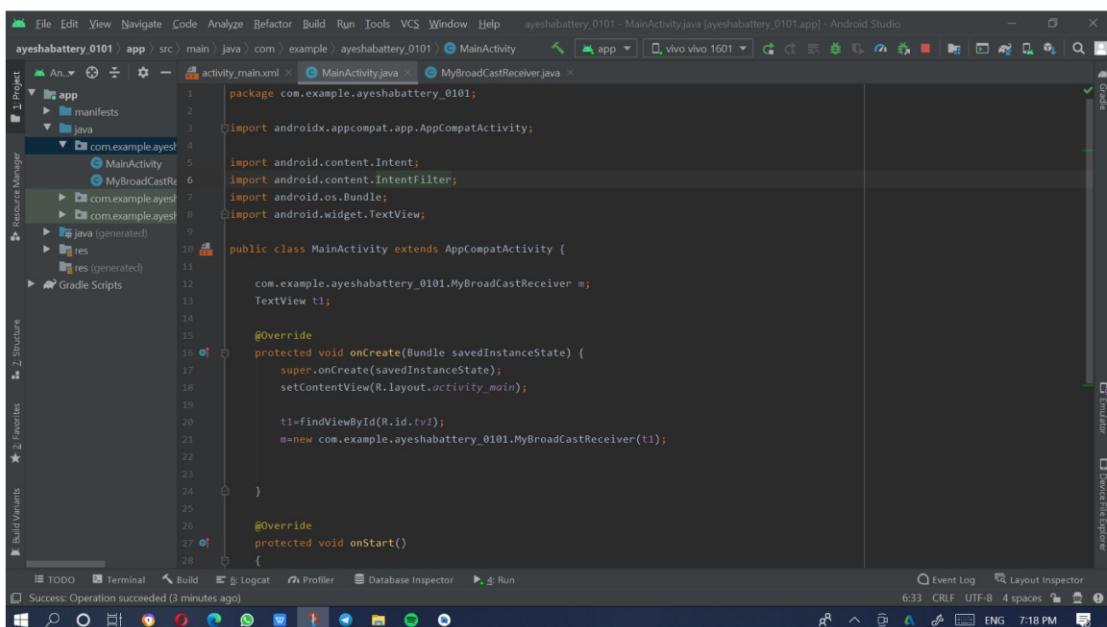
```

public MyBroadCastReceiver(TextView t1) {
    this.t1=t1;
}

@Override
public void onReceive(Context context, Intent intent)
{
    int per=intent.getIntExtra(BatteryManager.EXTRA_LEVEL,0);
    if(per>0)
    {
        t1.setText("Battery Level: "+per);
    }
}

```

Screenshots:-





Battery Level: 82

9. Develop an android application to implement the following. Choose a song from the play list and play the song use services

Activity.xml:-

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

    <ListView
        android:id="@+id/lv1"
        android:layout_width="match_parent"
        android:layout_height="438dp"
        android:layout_alignParentBottom="true"
        android:layout_marginBottom="107dp" />

    <TextView android:id="@+id/textView"
        android:layout_width="252dp"
        android:layout_height="60dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="82dp"
        android:layout_marginBottom="655dp"
        android:fontFamily="cursive"
        android:text="Music Player"
        android:textAlignment="center"
        android:textSize="40sp"

    />
```

```

<TextView android:id="@+id/textView2"
    android:layout_width="251dp"
    android:layout_height="48dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="157dp"
    android:layout_marginBottom="562dp"
    android:fontFamily="cursive"
    android:text="Pick a Song:"
    android:textAlignment="center"
    android:textSize="25sp" />

<View android:id="@+id/divider"
    android:layout_width="match_parent"
    android:layout_height="5dp"
    android:layout_alignParentBottom="true"
    android:layout_marginBottom="623dp"
    android:background="?android:attr/listDivider" />

<Button android:id="@+id/button"
    android:layout_width="168dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="121dp"
    android:layout_marginBottom="38dp"
    android:text="Play"
    android:onClick="gotoplayer"/>

</RelativeLayout>

```

Mainactivity.java:-

```

package com.example.mymusicplayer_101; import
androidx.appcompat.app.AppCompatActivity;

import android.content.Intent; import
android.os.Bundle; import android.view.View; import
android.widget.AdapterView; import
android.widget.ArrayAdapter; import
android.widget.ListView; public class MainActivity
extends AppCompatActivity {

    String[] Song = new String[] {"Wolves", "Daises", "stuck with u", "End of time", "Feel Me"};

    String son, p;
    int pos;

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

        ArrayAdapter<String> adapter = new
        ArrayAdapter<>(this,
        android.R.layout.simple_list_item_1, Song); final ListView
        listView = findViewById(R.id.lv1);
    }
}

```

```

listView.setAdapter(adapter);

listView.setOnItemClickListener(new AdapterView.OnItemClickListener()
{
    @Override
    public void onItemClick(AdapterView<?> parent, View
        view, int position, long id) { // TODO Auto-generated
        method stub
        son=Song[position];
        pos=position;

        p=String.valueOf(pos);
        listView.setSelector(android.R.color.holo_blue_dark);

    }
});

public void gotoplayer(View view) {
    Intent intent=new Intent(this, secondactivity.class);

    intent.putExtra("song",son);
    intent.putExtra("position",p);
    startActivity(intent);
}

}

```

Second.xml:-

```

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

    <View android:id="@+id/divider2"
        android:layout_width="match_parent"
        android:layout_height="10dp"
        android:layout_alignParentBottom="true"
        android:layout_marginBottom="623dp"
        android:background="?android:attr/listDivider" />

    <TextView android:id="@+id/textView3"
        android:layout_width="252dp"
        android:layout_height="60dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="82dp"
        android:layout_marginBottom="655dp"
        android:fontFamily="cursive"
        android:text="Music Player"
        android:textAlignment="center"
        android:textSize="40sp"

    />

    <TextView
        android:id="@+id/textView4"

```

```
    android:layout_width="252dp"
    android:layout_height="60dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="79dp"
    android:layout_marginBottom="522dp"
    android:fontFamily="cursive"
    android:text="Now Playing:"
    android:textAlignment="center"
    android:textSize="40sp"

/>

<TextView android:id="@+id/tv1"
    android:layout_width="273dp"
    android:layout_height="91dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="68dp"
    android:layout_marginBottom="360dp"
    android:fontFamily="sans-serif-condensed"
    android:textAlignment="center"
    android:textSize="40sp"

/>

<Button android:id="@+id/button2"
    android:layout_width="100dp"
    android:layout_height="100dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="158dp"
    android:layout_marginBottom="138dp"
    android:background="@drawable/play"
    android:onClick="play" />

<Button android:id="@+id/button3"
    android:layout_width="100dp"
    android:layout_height="100dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="292dp"
    android:layout_marginBottom="137dp"
    android:background="@drawable/pause"
    android:onClick="pause" />

<Button android:id="@+id/button4"
    android:layout_width="100dp"
    android:layout_height="100dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="28dp"
    android:layout_marginBottom="139dp"
    android:background="@drawable/stop"
    android:onClick="stop" />

</RelativeLayout>
```

Second.java:-

```
package com.example.mymusicplayer_101;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent; import
android.media.MediaPlayer; import
android.os.Bundle; import android.view.View;
import android.widget.TextView; import
android.widget.Toast;

public class secondactivity extends AppCompatActivity {

    MediaPlayer player;
    TextView t1;

    String song;
    int pos;

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

        Intent intent=getIntent();
        song=intent.getStringExtra("song");
        pos=Integer.parseInt(intent.getStringExtra("position"));

        t1=findViewById(R.id.tv1);
        t1.setText(song);

        if(player == null){
            if(pos==0)
                { player = MediaPlayer.create(this, R.raw.wolves);
            }

            else if(pos==1)
            { player = MediaPlayer.create(this, R.raw.daisies);
            }
            else if(pos==2)
            { player = MediaPlayer.create(this, R.raw.feelme);
            }
            else if(pos==3)
            { player = MediaPlayer.create(this, R.raw.stuckwithu);
            }
            else if(pos==4)
            { player = MediaPlayer.create(this, R.raw.endoftime);
            }

            else
            { stopPlayer();
            }
        player.setOnCompletionListener(new MediaPlayer.OnCompletionListener() {
            @Override
            public void onCompletion(MediaPlayer mp) {
                stopPlayer();
            }
        });
    }
}
```

```
        });
    }
    player.start();

} public void play(View view)
{
    player.setOnCompletionListener(new MediaPlayer.OnCompletionListener() {
        @Override
        public void onCompletion(MediaPlayer mp) {
            stopPlayer();
        } });
    player.start();
}

public void pause(View view) {
    if(player!=null){
        player.pause();
    }
}

public void stop(View view) {
    stopPlayer();
}

private void stopPlayer() {
    if(player!=null){
        player.release(); player=null;
        Toast.makeText(this,"Media Player is released!", Toast.LENGTH_SHORT).show();
    }
}
protected void onStop(){
super.onStop();
stopPlayer(); }

}
```

Screenshots:-

MyMusicPlayer_101 - MainActivity.java [MyMusicPlayer_101.apk] - Android Studio

```
package com.example.mymusicplayer_101;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;

public class MainActivity extends AppCompatActivity {

    String[] Song = new String[] {"Wolves","Daises","stuck with u","End of time","Feel Me"};

    String song;
    int pos;

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

        ArrayAdapter<String> adapter = new ArrayAdapter<>(this, android.R.layout.simple_list_item_1,Song);
        final ListView listView = findViewById(R.id.lv1);

        listView.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView parent, View view, int position, long id) {
                Intent intent = new Intent(getApplicationContext(), secondactivity.class);
                intent.putExtra("song",Song[position]);
                intent.putExtra("position",position);
                startActivity(intent);
            }
        });
    }
}
```

Success: Operation succeeded (6 minutes ago)

MyMusicPlayer_101 - secondactivity.java [MyMusicPlayer_101.apk] - Android Studio

```
package com.example.mymusicplayer_101;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.media.MediaPlayer;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;
import android.widget.Toast;

public class secondactivity extends AppCompatActivity {

    MediaPlayer player;
    TextView t1;

    String song;
    int pos;

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

        Intent intent=getIntent();
        song=intent.getStringExtra( "name" );
        pos=Integer.parseInt(intent.getStringExtra( "position" ));

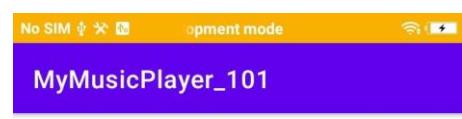
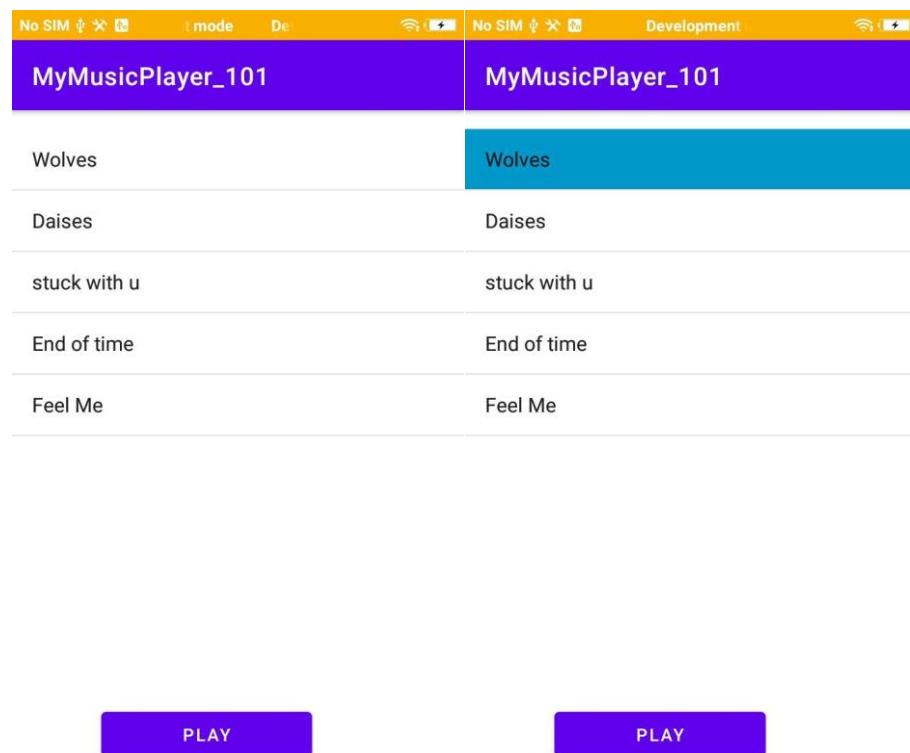
        t1=(TextView) findViewById(R.id.t1);
        t1.setText(song);
        playSong();
    }

    public void playSong()
    {
        if(player!=null)
        {
            player.stop();
            player.release();
        }
        player=new MediaPlayer();
        try {
            player.setDataSource("android.resource://" + getPackageName() + "/" + R.raw.song);
            player.prepare();
            player.start();
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void pauseSong()
    {
        if(player!=null)
        {
            player.pause();
        }
    }

    public void stopSong()
    {
        if(player!=null)
        {
            player.stop();
            player.release();
        }
    }
}
```

Success: Operation succeeded (7 minutes ago)



10. SOLite DATA program

Activity_main.xml:-

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

```
    android:layout_height="match_parent"
    tools:context=".MainActivity">
<TextView android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginBottom="42dp"
    android:text="ID"
    android:textSize="18sp"
    app:layout_constraintBottom_toTopOf="@+id/textView2"
    app:layout_constraintStart_toStartOf="parent"
    android:layout_marginLeft="16dp" />
<TextView android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginBottom="50dp"
    android:text="Name"
    android:textSize="18sp"
    app:layout_constraintBottom_toTopOf="@+id/textView3"
    app:layout_constraintStart_toStartOf="parent"
    android:layout_marginLeft="16dp" />
<TextView android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginBottom="46dp"
    android:text="Last Name"
    android:textSize="18sp"
    app:layout_constraintBottom_toTopOf="@+id/textView4"
    app:layout_constraintStart_toStartOf="parent"
    android:layout_marginLeft="16dp" />
<TextView android:id="@+id/textView4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginBottom="119dp"
    android:text="Marks"
    android:textSize="18sp"
    app:layout_constraintBottom_toTopOf="@+id/button"
    app:layout_constraintStart_toStartOf="parent"
    android:layout_marginLeft="16dp" />
<EditText android:id="@+id/editTextId"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="69dp"
    android:layout_marginBottom="21dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toTopOf="@+id/editTextName"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginRight="69dp" />
<EditText
    android:id="@+id/editTextName"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="66dp"
    android:layout_marginBottom="29dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toTopOf="@+id/editTextLastName"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginRight="66dp" /> <EditText
```

```
        android:id="@+id/editTextLastName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="66dp"
        android:layout_marginBottom="25dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toTopOf="@+id/editTextMarks"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginRight="66dp" />
<EditText
        android:id="@+id/editTextMarks"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="66dp"
        android:layout_marginEnd="69dp"
        android:layout_marginBottom="98dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toTopOf="@+id/button2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toEndOf="@+id/textView4"
        android:layout_marginLeft="66dp"
        android:layout_marginRight="69dp" />
<Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="32dp"
        android:layout_marginBottom="28dp"
        android:text="Add"
        app:layout_constraintBottom_toTopOf="@+id/button3"
        app:layout_constraintStart_toStartOf="parent"
        android:layout_marginLeft="32dp" />
<Button android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="132dp"
        android:layout_marginBottom="28dp"
        android:text="View All"
        app:layout_constraintBottom_toTopOf="@+id/button4"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginRight="132dp" />
<Button android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="33dp"
        android:layout_marginBottom="233dp"
        android:text="Update"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        android:layout_marginLeft="33dp" />
<Button android:id="@+id/button4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="132dp"
        android:layout_marginBottom="233dp"
        android:text="Delete"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginRight="132dp" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Mainativity.java:-

```
package com.example.ayeshasql_0101;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.database.Cursor; import
android.os.Bundle; import android.view.View;
import android.widget.Button; import
android.widget.EditText; import
android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    DatabaseHelper myDb;
    Button ButtonAdd, ButtonView, ButtonUpdate, ButtonDelete;
    EditText id;
    EditText name, last_name, marks;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main); myDb =
        new DatabaseHelper(this); ButtonAdd =
        findViewById(R.id.button);
        ButtonView = findViewById(R.id.button2);
        ButtonUpdate = findViewById(R.id.button3);
        ButtonDelete = findViewById(R.id.button4); id =
        findViewById(R.id.editTextId); name =
        findViewById(R.id.editTextName); last_name =
        findViewById(R.id.editTextLastName); marks =
        findViewById(R.id.editTextMarks); AddData();
        viewAll(); updatedata(); DeleteData();
    }

    void updatedata() {
        ButtonUpdate.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) { boolean isUpdate =
                myDb.updateData(id.getText().toString(),
                    name.getText().toString(),
                    last_name.getText().toString(),
                    marks.getText().toString());
                if (isUpdate == true)
                    Toast.makeText(MainActivity.this, "Data Updated",
                        Toast.LENGTH_LONG).show();
                else
                    Toast.makeText(MainActivity.this, "Data not Updated",
                        Toast.LENGTH_LONG).show(); }
        });
    }

    public void DeleteData() {
        ButtonDelete.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Integer deletedRows = myDb.deleteData(id.getText().toString());
                if (deletedRows > 0)
                    Toast.makeText(MainActivity.this, "Data Deleted",
                        Toast.LENGTH_LONG).show();
                else

```

```
    Toast.makeText(MainActivity.this, "Data not Deleted",  
    Toast.LENGTH_LONG).show(); }
```

```

        });

    }

    public void AddData() {
        ButtonAdd.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) { boolean isInserted =
                myDb.insertData(name.getText().toString(),
                    last_name.getText().toString(),
                    marks.getText().toString());
                if (isInserted == true) {
                    Toast.makeText(MainActivity.this, "Data Inserted",
                        Toast.LENGTH_SHORT).show();
                } else {
                    Toast.makeText(MainActivity.this, "Data not Inserted",
                        Toast.LENGTH_SHORT).show(); }
            }
        });
    }

    public void viewAll() {
        ButtonView.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) { Cursor res =
                myDb.getAllData(); if (res.getCount() == 0)
                { // show message showMessage("Error", "No
                Data Found..."); return;
                }
                StringBuffer buffer = new StringBuffer(); while
                (res.moveToNext()) { buffer.append("Id :" +
                res.getString(0) + "\n"); buffer.append("Name :" +
                res.getString(1) + "\n"); buffer.append("Surname :" +
                res.getString(2) + "\n"); buffer.append("Marks :" +
                res.getString(3) + "\n\n");
                }
                // Show all data
                showMessage("Data", buffer.toString());
            }
        });
    }

    public void showMessage(String title, String Message) {
        AlertDialog.Builder builder = new AlertDialog.Builder(this);
        builder.setCancelable(true); builder.setTitle(title);
        builder.setMessage(Message); builder.show();
    }
}

```

Databasehelper.java:-

```

package com.example.ayeshasql_0101; 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 DatabaseHelper extends SQLiteOpenHelper {  
    public static final String DATABASE_NAME = "student.db";  
    public static final String TABLE_NAME = "Student_Table";  
    public static final String col_1 = "ID";
```

```
public static final String col_2 = "NAME"; public
static final String col_3 = "LAST_NAME"; public
static final String col_4 = "MARKS"; public
DatabaseHelper(@Nullable Context context) {
super(context, DATABASE_NAME, null, 1);
}
@Override
public void onCreate(SQLiteDatabase db) {
db.execSQL("createtable"+TABLE_NAME+"(IDINTEGERPRIMARYKEYAUTINCREMENT,NAMETEXT,LAST_NAME TEXT,MARKS
INTEGER)");
}
@Override
public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
    db.execSQL("DROP TABLE IF EXISTS "+TABLE_NAME); onCreate(db);
}
public boolean insertData(String name,String last_name,String marks){
    SQLiteDatabase db = this.getWritableDatabase();
    ContentValues contentValues = new ContentValues();
    contentValues.put(col_2,name);
    contentValues.put(col_3,last_name);
    contentValues.put(col_4,marks);
    long result = db.insert(TABLE_NAME,null,contentValues);
    if (result == -1){ return false;
} else { return
true;
}
}
public Cursor getAllData()
{
    SQLiteDatabase db = this.getWritableDatabase();
    Cursor res = db.rawQuery("select * from "+TABLE_NAME,null);
    return res;
}
public boolean updateData(String id,String name,String surname,String marks)
{
    SQLiteDatabase db = this.getWritableDatabase();
    ContentValues contentValues = new ContentValues();
    contentValues.put(col_1,id);
    contentValues.put(col_2,name);
    contentValues.put(col_3,surname);
    contentValues.put(col_4,marks);
    db.update(TABLE_NAME, contentValues, "ID = ?",new String[] { id });
    return true;
}
public Integer deleteData (String id)
{
    SQLiteDatabase db = this.getWritableDatabase();
    return db.delete(TABLE_NAME, "ID = ?",new String[] {id});
}
}
```

Screenshots:-

The screenshot shows the Android Studio interface with the project 'MyMusicPlayer_101' open. The code editor displays the Java file `SecondActivity.java`. The file contains code for a subclass of `AppCompatActivity` named `SecondActivity`. It imports various Android classes and defines a `MediaPlayer` object and a `TextView` object named `t1`. It also declares variables `song` and `pos`. The `onCreate` method is overridden to set the content view and handle intent extras for song and position. The `res/raw` directory is shown containing several MP3 files: `daisies.mp3`, `endoftime.mp3`, `feelme.mp3`, `stuckwithu.mp3`, and `wolves.mp3`.

```
package com.example.mymusicplayer_101;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.media.MediaPlayer;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;
import android.widget.Toast;

public class SecondActivity extends AppCompatActivity {

    MediaPlayer player;
    TextView t1;

    String song;
    int pos;

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

        Intent intent=getIntent();
        song=intent.getStringExtra("name");
        pos=Integer.parseInt(intent.getStringExtra("position"));
    }
}
```


The screenshot shows the Android Studio interface with the project 'ayeshasql_0101' open. The code editor displays the Java file `DatabaseHelper.java`. The file defines a class `DatabaseHelper` that extends `SQLiteOpenHelper`. It includes static final variables for the database name (`DATABASE_NAME`), table name (`TABLE_NAME`), and column names (`col_1` through `col_4`). The constructor takes a context and a factory. The `onCreate` method creates a table with columns `ID`, `NAME`, `LAST_NAME`, and `MARKS`. The `onUpgrade` method drops the table if it exists and recreates it. The `insertData` method inserts data into the table.

```
package com.example.ayeshasql_0101;
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 DatabaseHelper extends SQLiteOpenHelper {

    public static final String DATABASE_NAME = "student.db";
    public static final String TABLE_NAME = "Student_Table";
    public static final String col_1 = "ID";
    public static final String col_2 = "NAME";
    public static final String col_3 = "LAST_NAME";
    public static final String col_4 = "MARKS";
    public DatabaseHelper(@Nullable Context context) {
        super(context, DATABASE_NAME, null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL("create table "+TABLE_NAME+"(ID INTEGER PRIMARY KEY AUTOINCREMENT, NAME TEXT, LAST_NAME TEXT, MARKS INTEGER)");
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
        db.execSQL("DROP TABLE IF EXISTS "+TABLE_NAME);
        onCreate(db);
    }

    public boolean insertData(String name, String last_name, String marks){
        SQLiteDatabase db = this.getWritableDatabase();
    }
}
```

No SIM	Development mode	No SIM	Development mode
ayeshasql_0101		ayeshasql_0101	

ID	<input type="text"/>	ID	<input type="text" value="20171cse0101"/>
Name	<input type="text"/>	Name	<input type="text" value="ayesha"/>
Last Name	<input type="text"/>	Last Name	<input type="text" value="syed"/>
Marks	<input type="text"/>	Marks	<input type="text" value="80"/>

[ADD](#) [VIEW ALL](#)

[ADD](#) [VIEW ALL](#)

[UPDATE](#) [DELETE](#)

[UPDATE](#) [DELETE](#)