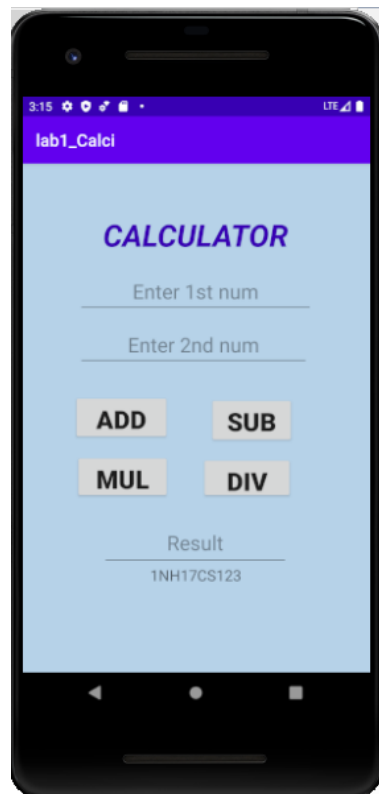


PROGRAM NO.: 1

QUESTION: Develop an android application to perform operations of a simple calculator using buttons.

OUTPUT SCREENSHOTS:



XML CODE:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#B6D2E8"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="267dp"
        android:layout_height="50dp"
```

```
android:text="CALCULATOR"
android:textAlignment="center"
android:textColor="@color/colorPrimaryDark"
android:textSize="36sp"
android:textStyle="bold|italic"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintHorizontal_bias="0.498"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.109" />
```

<EditText

```
android:id="@+id/num1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:hint="Enter 1st num"
android:inputType="textPersonName"
android:textAlignment="center"
android:textSize="24sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.497"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.228" />
```

<EditText

```
android:id="@+id/num2"
android:layout_width="273dp"
android:layout_height="50dp"
android:ems="10"
android:hint="Enter 2nd num"
android:inputType="textPersonName"
android:textAlignment="center"
android:textSize="24sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.48"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.347" />
```

<Button

```
android:id="@+id/add_bt"
android:layout_width="114dp"
android:layout_height="56dp"
android:text="ADD"
android:textAlignment="center"
android:textSize="30sp"
android:textStyle="bold"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.204"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.499"
tools:ignore="InvalidId" />
```

```
<Button
    android:id="@+id/sub_bt"
    android:layout_width="100dp"
    android:layout_height="57dp"
    android:text="SUB"
    android:textSize="30sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.712"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.505" />
```

```
<Button
    android:id="@+id/mul_bt"
    android:layout_width="112dp"
    android:layout_height="55dp"
    android:text="MUL"
    android:textAlignment="center"
    android:textSize="30sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.21"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.627" />
```

```
<Button
    android:id="@+id/div_bt"
    android:layout_width="108dp"
    android:layout_height="52dp"
    android:text="DIV"
    android:textAlignment="center"
    android:textSize="30sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.7"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.629" />
```

```
<EditText
    android:id="@+id/res"
    android:layout_width="220dp"
    android:layout_height="57dp"
    android:ems="10"
    android:hint="Result"
    android:inputType="number"
    android:textAlignment="center"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
```

```

        app:layout_constraintVertical_bias="0.771" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA CODE:

```

package com.example.lab1_calci;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    EditText num1,num2,res;
    Button add_bt,sub_bt,mul_bt,div_bt;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        num1 = (EditText) findViewById(R.id.num1);
        num2 = (EditText) findViewById(R.id.num2);
        res = (EditText) findViewById(R.id.res);
        add_bt = (Button) findViewById(R.id.add_bt);
        sub_bt = (Button) findViewById(R.id.sub_bt);
        mul_bt = (Button) findViewById(R.id.mul_bt);
        div_bt = (Button) findViewById(R.id.div_bt);

        add_bt.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String v1 = num1.getText().toString();
                String v2 = num2.getText().toString();
                int a = Integer.parseInt(v1);
                int b = Integer.parseInt(v2);
                int c = a+b;
                res.setText(c);
            }
        });

        sub_bt.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String v1 = num1.getText().toString();
                String v2 = num2.getText().toString();
                int a = Integer.parseInt(v1);
                int b = Integer.parseInt(v2);
                int c = a-b;
                res.setText(c);
            }
        });
    }
}

```

```

    });

    mul_bt.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            String v1 = num1.getText().toString();
            String v2 = num2.getText().toString();
            int a = Integer.parseInt(v1);
            int b = Integer.parseInt(v2);
            int c = a-b;
            res.setText(c);
        }
    });

    div_bt.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            String v1 = num1.getText().toString();
            String v2 = num2.getText().toString();
            int a = Integer.parseInt(v1);
            int b = Integer.parseInt(v2);
            int c = a-b;
            res.setText(c);
        }
    });
}
}
}

```


PROGRAM NO.: 2

QUESTION: Design and implement a single screen app that displays information about a small business.eg. Restaurant, Book shop etc. Your design must include:

- Business name
- Photo of business
- Contact information

OUTPUT SCREENSHOTS:



XML CODE:

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

```

xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="#E3B9EA"
tools:context=".MainActivity">

<TextView
    android:id="@+id/textView"
    android:layout_width="231dp"
    android:layout_height="49dp"
    android:text="PIZZA HUT"
    android:textAlignment="center"
    android:textColor="@android:color/holo_red_dark"
    android:textSize="36sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.074" />

<ImageView
    android:id="@+id/imageView"
    android:layout_width="330dp"
    android:layout_height="198dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.493"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.228"
    app:srcCompat="@drawable/pizzahut" />

<TextView
    android:id="@+id/textView2"
    android:layout_width="381dp"
    android:layout_height="141dp"
    android:text="Pizza Hut is an American restaurant chain and
international franchise which was founded in 1958 in Wichita, Kansas by
Dan and Frank Carney. The company is known for its Italian American
cuisine menu, including pizza and pasta, as well as side dishes and
desserts."
    android:textAlignment="center"
    android:textColor="@android:color/holo_red_light"
    android:textSize="18sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.533"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.622" />

<TextView
    android:id="@+id/textView3"
    android:layout_width="217dp"
    android:layout_height="102dp"
    android:text="Soul Space Arena, 4th Flr, Mall · In Soul Space
Arena Mall Open · Closes 10PM · 1800 202 2022"
    android:textAlignment="center"
    android:textColor="@color/colorPrimaryDark"

```



```
        android:textSize="18sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.788"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.852" />

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

JAVA CODE:

```
package com.example.lab2_res;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

PROGRAM NO.: 3

QUESTION: Design and develop a Mobile App for smart phones The Easy Unit Converter using Android.

OUTPUT SCREENSHOTS:



XML CODE:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/screen1"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#F9FAF6"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView2"
        android:layout_width="357dp"
        android:layout_height="55dp"
        android:text="@string/unit_converter"
        android:textAlignment="center"
```

```
android:textAllCaps="false"
android:textColor="@color/colorPrimaryDark"
android:textSize="36sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintHorizontal_bias="0.468"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.127" />
```

<TextView

```
android:id="@+id/textView"
android:layout_width="128dp"
android:layout_height="21dp"
android:text="@string/_1nh17cs123"
android:textAlignment="center"
android:textSize="18sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.104"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.043" />
```

<EditText

```
android:id="@+id/val"
android:layout_width="241dp"
android:layout_height="51dp"
android:ems="10"
android:hint="Enter number"
android:inputType="textPersonName"
android:textAlignment="center"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.427"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.278" />
```

<EditText

```
android:id="@+id/res"
android:layout_width="242dp"
android:layout_height="53dp"
android:ems="10"
android:hint="@string/result"
android:inputType="textPersonName"
android:textAlignment="center"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.426"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.389" />
```

<RadioGroup

```
android:id="@+id/radgrp"
android:layout_width="275dp"
android:layout_height="184dp"
app:layout_constraintBottom_toBottomOf="parent"
```

```

app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.402"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.639">

<RadioButton
    android:id="@+id/rb1"
    android:layout_width="match_parent"
    android:layout_height="48dp"
    android:text="@string/cm_to_m"
    android:textAlignment="textStart"
    android:textSize="18sp" />

<RadioButton
    android:id="@+id/rb2"
    android:layout_width="match_parent"
    android:layout_height="44dp"
    android:text="@string/m_to_cm"
    android:textAlignment="textStart"
    android:textSize="18sp" />

<RadioButton
    android:id="@+id/rb3"
    android:layout_width="match_parent"
    android:layout_height="47dp"
    android:text="@string/feet_to_inch"
    android:textAlignment="textStart"
    android:textSize="18sp"
    tools:ignore="DuplicateIds" />

<RadioButton
    android:id="@+id/rb4"
    android:layout_width="match_parent"
    android:layout_height="44dp"
    android:text="@string/inch_to_feet"
    android:textSize="18sp" />
</RadioGroup>

<Button
    android:id="@+id/conv_bt"
    android:layout_width="181dp"
    android:layout_height="58dp"
    android:text="@string/convert"
    android:textAlignment="center"
    android:textSize="30sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.435"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.86" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA CODE:

```

package com.example.lab3_unitcon;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

    EditText val,res;
    Button conv_bt;
    RadioButton rb1,rb2,rb3,rb4;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        val = (EditText)findViewById(R.id.val);
        res = (EditText)findViewById(R.id.res);
        conv_bt = (Button)findViewById(R.id.conv_bt);
        rb1 = (RadioButton)findViewById(R.id.rb1);
        rb2 = (RadioButton)findViewById(R.id.rb2);
        rb3 = (RadioButton)findViewById(R.id.rb3);
        rb4 = (RadioButton)findViewById(R.id.rb4);

        conv_bt.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String a = val.getText().toString();
                float n = Float.parseFloat(a);
                float c;
                if(rb1.isChecked()) {
                    c=n/100;
                    res.setText("Result =" +c);
                }
                else if(rb2.isChecked()) {
                    c=n*100;
                    res.setText("Result =" +c);
                }
                else if(rb3.isChecked()) {
                    c=n*12;
                    res.setText("Result =" +c);
                }
                else if(rb4.isChecked()) {
                    c=n/12;
                    res.setText("Result =" +c);
                }
            }
        });
    }
}

```

```
} }
```

PROGRAM NO.: 4

QUESTION: Design and develop a Mobile App for smart phones Currency Converter.

OUTPUT SCREENSHOTS:



XML CODE:

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

    <Spinner
        android:id="@+id/sp1"
        android:layout_width="311dp"
        android:layout_height="61dp"
        android:entries="@array/sp_list"
        android:textAlignment="center"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.473" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="373dp"
        android:layout_height="61dp"
        android:text="CURRENCY CONVERTER"
        android:textAlignment="center"
        android:textSize="30sp"
```



```
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.114" />
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="183dp"
    android:layout_height="43dp"
    android:text="Select Option:"
    android:textAlignment="viewStart"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.188"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.377" />
```

```
<Button
    android:id="@+id/bt_conv"
    android:layout_width="151dp"
    android:layout_height="57dp"
    android:text="CONVERT"
    android:textAlignment="center"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.47"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.578" />
```

```
<TextView
    android:id="@+id/res_tv"
    android:layout_width="310dp"
    android:layout_height="91dp"
    android:text="Result"
    android:textAlignment="center"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.747" />
```

```
<TextView
    android:id="@+id/textView4"
    android:layout_width="185dp"
    android:layout_height="41dp"
    android:text="1NH17CS123"
    android:textAlignment="center"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.674"
    app:layout_constraintStart_toStartOf="parent"
```

```

        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.908" />

<EditText
    android:id="@+id/val"
    android:layout_width="277dp"
    android:layout_height="51dp"
    android:ems="10"
    android:hint="Enter amount:"
    android:inputType="textPersonName"
    android:textAlignment="center"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.245" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA CODE:

```

package com.example.currencyconverter;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    Spinner sp1;
    TextView res_tv;
    Button bt_conv;
    EditText val;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        sp1 = (Spinner)findViewById(R.id.sp1);
        bt_conv = (Button)findViewById(R.id.bt_conv);
        res_tv = (TextView)findViewById(R.id.res_tv);
        val = (EditText) findViewById(R.id.val);

        bt_conv.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                int pos = sp1.getSelectedItemPosition();
                String a = val.getText().toString();
                float n = Float.parseFloat(a);
                float res;
            }
        });
    }
}

```

```

        if(pos == 1)
        {
            res = n*73;
            res_tv.setText("Result =" + res);
        }
        else if(pos == 2)
        {
            res = n/73;
            res_tv.setText("Result =" + res);
        }
        else if(pos == 3)
        {
            res = n*95;
            res_tv.setText("Result =" + res);
        }
        else if(pos == 4)
        {
            res = n/95;
            res_tv.setText("Result =" + res);
        }
        else
        {
            Toast.makeText(getApplicationContext(), "Please select
            option", Toast.LENGTH_LONG).show();
        }
    }
});
}
}

```

➤ strings.xml

```

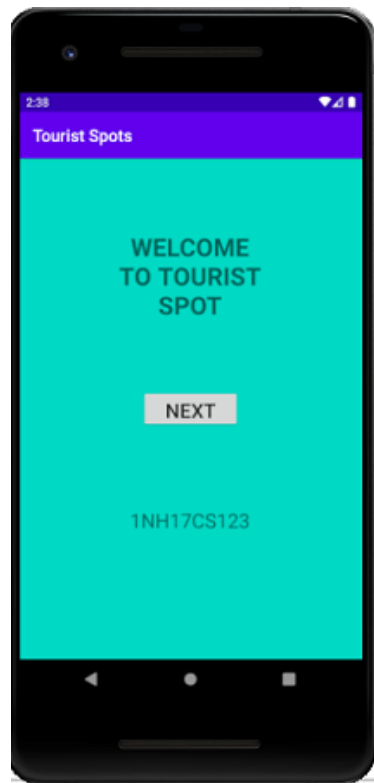
<resources>
    <string name="app_name">Currency Converter</string>
    <string-array name = "sp_list">
        <item> Select</item>
        <item> USD to INR</item>
        <item> INR to USD</item>
        <item> GBP to INR</item>
        <item> INR to GBP</item>
    </string-array>
</resources>

```

PROGRAM NO.: 5

QUESTION: Design an app for Tourist spot: With three activities, Welcome page, Display attractions of tourist spot and Webpage of the tourist spot

OUTPUT SCREENSHOTS:



XML CODE:

➤ Main activity XML

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

```
<TextView
    android:id="@+id/textView"
    android:layout_width="197dp"
    android:layout_height="119dp"
    android:text="WELCOME TO TOURIST SPOT"
    android:textAlignment="center"
    android:textSize="30sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.178" />
```

```
<Button
    android:id="@+id/nxt_btn"
    android:layout_width="118dp"
    android:layout_height="48dp"
    android:text="Next"
    android:textAlignment="center"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="162dp"
    android:layout_height="28dp"
    android:text="1NH17CS123"
    android:textAlignment="center"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.73" />
```

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

➤ Home 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=".Home">

<TextView
    android:id="@+id/textView3"
    android:layout_width="326dp"
    android:layout_height="73dp"
    android:text="Natural Tourist Spots in India"
    android:textAlignment="center"
    android:textColor="@color/colorPrimaryDark"
    android:textSize="24sp"
    android:textStyle="italic"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.496"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.087" />

<ImageView
    android:id="@+id/andaman_img"
    android:layout_width="259dp"
    android:layout_height="140dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.565"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.236"
    app:srcCompat="@drawable/andaman" />

<ImageView
    android:id="@+id/img_jog"
    android:layout_width="257dp"
    android:layout_height="158dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.558"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.532"
    app:srcCompat="@drawable/jog" />

<ImageView
    android:id="@+id/img_dal"
    android:layout_width="261dp"
    android:layout_height="162dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"

```

```

        app:layout_constraintHorizontal_bias="0.573"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.878"
        app:srcCompat="@drawable/dal" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA CODE:

➤ Main Java

```

package com.example.touristspots;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    Button nxt_btn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        nxt_btn = (Button)findViewById(R.id.nxt_btn);
        nxt_btn.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View view) {
                Intent i = new Intent(getApplicationContext(), Home.class);
                startActivity(i);
            }
        });
    }
}

```

➤ Home java

```

package com.example.touristspots;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;

```



```

import android.widget.Toast;

public class Home extends AppCompatActivity {
    ImageView img_andaman,img_jog,img_dal;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_home);
        img_andaman = (ImageView)findViewById(R.id.andaman_img);
        img_jog = (ImageView)findViewById(R.id.img_jog);
        img_dal = (ImageView)findViewById(R.id.img_dal);

        img_andaman.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View view) {
                Toast.makeText(getApplicationContext(),"Andaman
islands",Toast.LENGTH_SHORT).show();
                String
url="https://en.wikipedia.org/wiki/Andaman_and_Nicobar_Islands";
                Intent i1 = new Intent(Intent.ACTION_VIEW, Uri.parse(url));
                startActivity(i1);
            }
        });

        img_jog.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View view) {
                Toast.makeText(getApplicationContext(),"Jog falls
",Toast.LENGTH_SHORT).show();
                String url="https://en.wikipedia.org/wiki/Jog_Falls";
                Intent i2 = new Intent(Intent.ACTION_VIEW, Uri.parse(url));
                startActivity(i2);
            }
        });

        img_dal.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View view) {
                Toast.makeText(getApplicationContext(),"Dal Lake
",Toast.LENGTH_SHORT).show();
                String url="https://en.wikipedia.org/wiki/Dal_Lake";
                Intent i3 = new Intent(Intent.ACTION_VIEW, Uri.parse(url));
                startActivity(i3);
            }
        });
    }
}

```

MANIFEST FILE:

```

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

```

```

package="com.example.touristspots">
  <uses-permission android:name="android.permission.INTERNET"/>
  <application
    android:allowBackup="true"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportRtl="true"
    android:theme="@style/AppTheme">
    <activity android:name=".Home"></activity>
    <activity android:name=".MainActivity">
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />

        <category android:name="android.intent.category.LAUNCHER" />
      </intent-filter>
    </activity>
  </application>

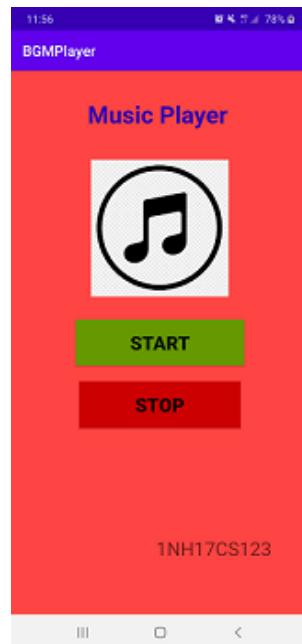
</manifest>

```

PROGRAM NO.: 6

QUESTION: Design an android app play music in background

OUTPUT SCREENSHOTS:



XML CODE:

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

    <TextView
        android:layout_width="324dp"
        android:layout_height="50dp"
        android:text="Music Player"
        android:textAlignment="center"
        android:textColor="@color/colorPrimaryDark"
        android:textSize="30sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.462"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.054" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="168dp"
        android:layout_height="37dp"
        android:text="1NH17CS123"
        android:textAlignment="center"
        android:textSize="24sp"
```

```

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.806"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.899" />

<Button
    android:id="@+id/bt_start"
    android:layout_width="233dp"
    android:layout_height="64dp"
    android:background="@android:color/holo_green_dark"
    android:text="START"
    android:textSize="24sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.5"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<Button
    android:id="@+id/bt_stop"
    android:layout_width="223dp"
    android:layout_height="65dp"
    android:background="@android:color/holo_red_dark"
    android:text="STOP"
    android:textAlignment="center"
    android:textSize="24sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.625" />

<ImageView
    android:id="@+id/imageView"
    android:layout_width="195dp"
    android:layout_height="190dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.219"
    app:srcCompat="@drawable/i1" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA CODE:

➤ Main Activity Code

```
package com.example.bgmpayer;
```

```

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity implements
View.OnClickListener {
    private Button bt_start, bt_stop;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        bt_start = (Button) findViewById(R.id.bt_start);
        bt_stop = (Button) findViewById(R.id.bt_stop);
        bt_start.setOnClickListener((View.OnClickListener) this);
        bt_stop.setOnClickListener((View.OnClickListener) this);
    }

    @Override
    public void onClick(View view) {
        if (view == bt_start) {
            //starting service
            startService(new Intent(this, MediaService.class));
        }
        else if (view == bt_stop) {
            // stopping service
            stopService(new Intent(this, MediaService.class));
        }
    }
}

```

➤ Media Service.java

```

package com.example.bgmpplayer;

import android.app.Service;
import android.content.Intent;
import android.media.MediaPlayer;
import android.os.IBinder;
import android.provider.Settings;

import androidx.annotation.Nullable;

public class MediaService extends Service {
    private MediaPlayer player;
    @Nullable
    @Override
    public IBinder onBind(Intent intent) {
        return null;
    }
    public int onStartCommand(Intent intent, int flags, int startId)
    {
        //player = MediaPlayer.create(this,
        Settings.System.DEFAULT_RINGTONE_URI);
        player = MediaPlayer.create(this, R.raw.song);
        player.setLooping(true);
        //starting the player
        player.start();
    }
}

```

```

        //start sticky means service will be explicitly started and
stopped
        return START_STICKY;
    }
    @Override
    public void onDestroy() {
        super.onDestroy();
        //stopping the player when service is destroyed player.stop();
        player.stop();
    }
}

```

MANIFEST FILE:

```

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

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category
                    android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <service android:name=".MediaService" />
    </application>

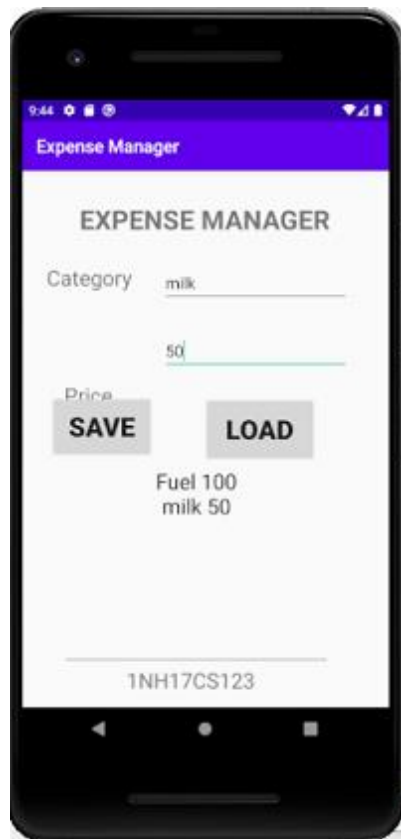
</manifest>

```

PROGRAM NO.: 7

QUESTION: Design and develop a Mobile App for smart phones The Expense Manager using Android.
The application should store all the expenses in a file

OUTPUT SCREENSHOTS:



XML CODE:

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

    <TextView
        android:id="@+id/textView3"
        android:layout_width="322dp"
        android:layout_height="61dp"
        android:text="EXPENSE MANAGER"
        android:textAlignment="center"
        android:textSize="30sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.496"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.063" />

    <TextView
        android:id="@+id/textView"
```



```
android:layout_width="126dp"
android:layout_height="52dp"
android:text="Category"
android:textAlignment="center"
android:textSize="24sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.045"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.189" />
```

<EditText

```
android:id="@+id/cat_et"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.781"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.186" />
```

<TextView

```
android:id="@+id/textView2"
android:layout_width="128dp"
android:layout_height="31dp"
android:layout_marginTop="236dp"
android:text="Price"
android:textAlignment="center"
android:textAllCaps="false"
android:textSize="24sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.038"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.0" />
```

<EditText

```
android:id="@+id/price_et"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="textPersonName"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.781"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.323" />
```

<Button

```
android:id="@+id/btn_save"
android:layout_width="116dp"
android:layout_height="72dp"
android:text="SAVE"
```

```

        android:textSize="30sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.108"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.473" />

<Button
    android:id="@+id/btn_load"
    android:layout_width="127dp"
    android:layout_height="75dp"
    android:text="LOAD"
    android:textSize="30sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.716"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.479" />

<EditText
    android:id="@+id/res_et"
    android:layout_width="301dp"
    android:layout_height="235dp"
    android:ems="10"
    android:gravity="start|top"
    android:inputType="textMultiLine"
    android:text="Result:"
    android:textAlignment="center"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.409"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.877" />

<TextView
    android:id="@+id/textView4"
    android:layout_width="210dp"
    android:layout_height="34dp"
    android:text="1NH17CS123"
    android:textAlignment="center"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.419"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.977" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA CODE:

```

package com.example.expensemanager;

import androidx.appcompat.app.AppCompatActivity;

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

import java.io.BufferedReader;
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.InputStreamReader;

public class MainActivity extends AppCompatActivity {
    EditText cat_et, price_et, res_et;
    Button btn_save, btn_load;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        cat_et = (EditText) findViewById(R.id.cat_et);
        price_et = (EditText) findViewById(R.id.price_et);
        res_et = (EditText) findViewById(R.id.res_et);
        btn_save = (Button) findViewById(R.id.btn_save);
        btn_load = (Button) findViewById(R.id.btn_load);

        btn_save.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String s1 = cat_et.getText().toString();
                String s2 = s1 + " " +
price_et.getText().toString()+"\n";

                try {
                    FileOutputStream fos =
openFileOutput("file1.txt",MODE_APPEND);
                    fos.write(s2.getBytes());
                } catch (FileNotFoundException e) {
                    e.printStackTrace();
                } catch (IOException e) {
                    e.printStackTrace();
                }
            }
        });

        btn_load.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try{
                    FileInputStream fis = openFileInput("file1.txt");
                    InputStreamReader isr = new InputStreamReader(fis);
                    BufferedReader br = new BufferedReader(isr);
                    StringBuilder sb = new StringBuilder();
                    String text;
                    while((text=br.readLine())!=null)
                    {

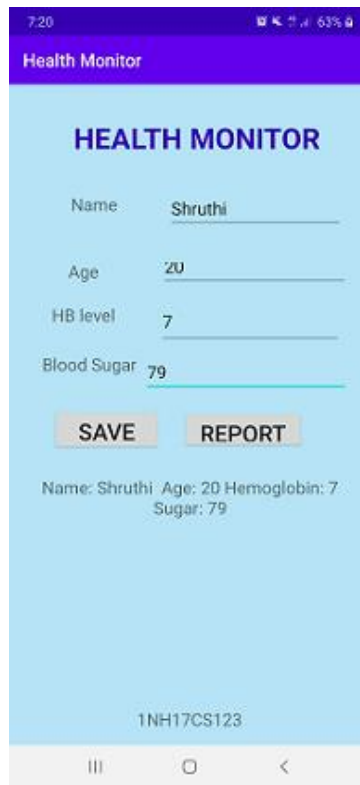
```

```
        sb.append(text);
        sb.append("\n");
    }
    res_et.setText(sb.toString());
} catch (FileNotFoundException e) {
    e.printStackTrace();
} catch (IOException e) {
    e.printStackTrace();
}
});
}
}
```

PROGRAM NO.: 8

QUESTION: Design and develop Health Monitoring App using Android. The app will store the blood pressure, blood group and glucose level of patient in SQLite database

OUTPUT SCREENSHOTS:



XML CODE:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#998BD3F3"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="180dp"
        android:layout_height="26dp"
        android:text="1NH17CS123"
        android:textAlignment="center"
        android:textSize="18sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.977" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="308dp"
        android:layout_height="51dp"
```

```
android:text="HEALTH MONITOR"
android:textAlignment="center"
android:textColor="@color/colorPrimaryDark"
android:textSize="30sp"
android:textStyle="bold"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.579"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.055" />
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="124dp"
    android:layout_height="22dp"
    android:text="Name"
    android:textAlignment="center"
    android:textSize="18sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.121"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.169" />
```

```
<TextView
    android:id="@+id/textView3"
    android:layout_width="99dp"
    android:layout_height="32dp"
    android:text="Age"
    android:textAlignment="center"
    android:textSize="18sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.112"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.277" />
```

```
<TextView
    android:id="@+id/textView4"
    android:layout_width="99dp"
    android:layout_height="30dp"
    android:text="HB level"
    android:textAlignment="center"
    android:textSize="18sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.112"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.345" />
```

```
<TextView
    android:id="@+id/textView5"
    android:layout_width="114dp"
    android:layout_height="33dp"
    android:text="Blood Sugar"
```

```
    android:textAlignment="center"
    android:textSize="18sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.117"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.425" />
```

<EditText

```
    android:id="@+id/et_name"
    android:layout_width="199dp"
    android:layout_height="42dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.85"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.174" />
```

<EditText

```
    android:id="@+id/et_age"
    android:layout_width="212dp"
    android:layout_height="39dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.869"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.27" />
```

<EditText

```
    android:id="@+id/et_hb"
    android:layout_width="207dp"
    android:layout_height="54dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.835"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.349" />
```

<EditText

```
    android:id="@+id/et_sugar"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.855"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
```



```

        app:layout_constraintVertical_bias="0.432" />

<Button
    android:id="@+id/bt_save"
    android:layout_width="122dp"
    android:layout_height="50dp"
    android:onClick="inserti"
    android:text="SAVE"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.173"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.524" />

<Button
    android:id="@+id/bt_report"
    android:layout_width="138dp"
    android:layout_height="46dp"
    android:onClick="report"
    android:text="REPORT"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.72"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.524" />

<TextView
    android:id="@+id/tv_op"
    android:layout_width="355dp"
    android:layout_height="205dp"
    android:text="Result:"
    android:textAlignment="center"
    android:textSize="18sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.813" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA CODE:

```

package com.example.healthmonitor;

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.TextView;

```

```

public class MainActivity extends AppCompatActivity {
    DatabaseHelper db;
    EditText et_name;
    EditText et_age;
    EditText et_hb;
    EditText et_sugar;
    Button bt_save;
    Button bt_report;
    TextView tv_op;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        db = new DatabaseHelper(this);
        et_name = (EditText) findViewById(R.id.et_name);
        et_age = (EditText) findViewById(R.id.et_age);
        et_hb = (EditText) findViewById(R.id.et_hb);
        et_sugar = (EditText) findViewById(R.id.et_sugar);
        bt_save = (Button) findViewById(R.id.bt_save);
        bt_report = (Button) findViewById(R.id.bt_report);
        tv_op = (TextView) findViewById(R.id.tv_op);
    }
    public void inserti (View view) {
        boolean status = db.insert(
            et_name.getText().toString(),
            Integer.parseInt(et_age.getText().toString()),
            Integer.parseInt(et_hb.getText().toString()),
            Integer.parseInt(et_sugar.getText().toString()));
    }
    public void report(View view) {
        Cursor c = db.select();
        if (c.getCount() == 0)
            return;
        StringBuffer buf = new StringBuffer();
        while (c.moveToNext()) {
            buf.append ("Name: "+c.getString(1));
            buf.append (" Age: "+c.getString(2));
            buf.append (" Hemoglobin: "+c.getString(3));
            buf.append (" Sugar: "+c.getString(4));
            buf.append ("\n");
        }
        tv_op.setText(buf);
    }
    public void cleartext (View view) {
        et_name.setText("");
        et_age.setText("");
        et_hb.setText("");
        et_sugar.setText("");
    }
}

```

DATA BASE:

```

package com.example.healthmonitor;

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 {
    DatabaseHelper (Context context) {
        super(context, "Health.db", null, 1);
    }
    public void onCreate (SQLiteDatabase sqLiteDatabase) {
        sqLiteDatabase.execSQL("CREATE TABLE LAB ( PATID integer PRIMARY
KEY AUTOINCREMENT, PANAME TEXT, AGE INTEGER, HM INTEGER, SUGAR INTEGER
);");
    }

    @Override
    public void onUpgrade(SQLiteDatabase sqLiteDatabase, int i, int i1)
    {
        sqLiteDatabase.execSQL("DROP TABLE IF EXISTS LAB ");
        onCreate(sqLiteDatabase);
    }
    public boolean insert (String name, int age, int hb, int sug) {
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues cv = new ContentValues();
        cv.put("PANAME", name);
        cv.put("AGE", age);
        cv.put("HM", hb);
        cv.put("SUGAR", sug);
        long status = db.insert("LAB",null,cv);
        if (status == -1)
            return false;
        else
            return true;
    }
    public Cursor select() {
        SQLiteDatabase db = this.getWritableDatabase();
        Cursor cr = db.rawQuery("SELECT * FROM LAB", null);
        return cr;
    }
}

```

PROGRAM NO.: 9

QUESTION: Develop an android app to display Map of your college locality

OUTPUT SCREENSHOTS:



XML CODE:

➤ Google maps api xml Code

<resources>

<!--

TODO: Before you run your application, you need a Google Maps API key.

To get one, follow this link, follow the directions and press "Create" at the end:

https://console.developers.google.com/flows/enableapi?apiid=maps_android_backend&keyType=CLIENT_SIDE_ANDROID&r=38:EB:EF:79:F0:DD:EB:0B:DE:92:74:C4:2A:84:5A:62:C4:98:73:75%3Bcom.example.collegemap

You can also add your credentials to an existing key, using these values:

Package name:

com.example.collegemap

SHA-1 certificate fingerprint:

38:EB:EF:79:F0:DD:EB:0B:DE:92:74:C4:2A:84:5A:62:C4:98:73:75

Alternatively, follow the directions here:

<https://developers.google.com/maps/documentation/android/start#get-key>

Once you have your key (it starts with "AIza"), replace the "google_maps_key" string in this file.

```
-->
<string name="google_maps_key" templateMergeStrategy="preserve"
translatable="false">AIzaSyDXl20xv6Il3ojORV-NuvgzErgByyx_ahQ</string>
</resources>
```

JAVA CODE:

```
package com.example.collegemap;

import androidx.fragment.app.FragmentActivity;

import android.os.Bundle;

import com.google.android.gms.maps.CameraUpdateFactory;
import com.google.android.gms.maps.GoogleMap;
import com.google.android.gms.maps.OnMapReadyCallback;
import com.google.android.gms.maps.SupportMapFragment;
import com.google.android.gms.maps.model.LatLng;
import com.google.android.gms.maps.model.MarkerOptions;

public class MapsActivity extends FragmentActivity implements
OnMapReadyCallback {

    private GoogleMap mMap;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_maps);
        // Obtain the SupportMapFragment and get notified when the map
is ready to be used.
        SupportMapFragment mapFragment = (SupportMapFragment)
getSupportFragmentManager()
            .findFragmentById(R.id.map);
        mapFragment.getMapAsync(this);
    }

    /**
     * Manipulates the map once available.
     * This callback is triggered when the map is ready to be used.
     * This is where we can add markers or lines, add listeners or move
the camera. In this case,
     * we just add a marker near Sydney, Australia.
     * If Google Play services is not installed on the device, the user
will be prompted to install
     * it inside the SupportMapFragment. This method will only be
triggered once the user has
     * installed Google Play services and returned to the app.
     */
    @Override
    public void onMapReady(GoogleMap googleMap) {
        mMap = googleMap;

        // Add a marker in Sydney and move the camera
        LatLng sydney = new LatLng(12.93, 77.69);
```

```

        mMap.addMarker(new MarkerOptions().position(sydney).title("New
Horizon College of Engineering"));
        mMap.moveCamera(CameraUpdateFactory.newLatLng(sydney));
    }
}

```

MANIFEST FILE:

```

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

    <!--
        The ACCESS_COARSE/FINE_LOCATION permissions are not required to
    use
        Google Maps Android API v2, but you must specify either coarse
    or fine
        location permissions for the "MyLocation" functionality.
    -->
    <uses-permission
android:name="android.permission.ACCESS_FINE_LOCATION" />
    <uses-permission
android:name="android.permission.ACCESS_COARSE_LOCATION"/>
    <uses-permission android:name="android.permission.INTERNET"/>
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/AppTheme">

        <!--
            The API key for Google Maps-based APIs is defined as a
        string resource.
            (See the file "res/values/google_maps_api.xml").
            Note that the API key is linked to the encryption key used
        to sign the APK.
            You need a different API key for each encryption key,
        including the release key that is used to
            sign the APK for publishing.
            You can define the keys for the debug and release targets
        in src/debug/ and src/release/.
        -->
        <meta-data
            android:name="com.google.android.geo.API_KEY"
            android:value="@string/google_maps_key" />

        <activity
            android:name=".MapsActivity"
            android:label="@string/title_activity_maps">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category
android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

```

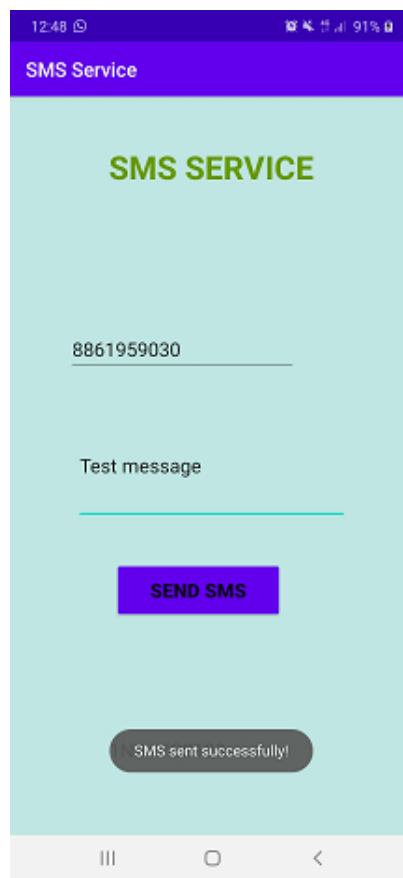
```
</application>

</manifest>
```

PROGRAM NO.: 10

QUESTION: Develop an android app to alert SMS to one given phone number.

OUTPUT SCREENSHOTS:



XML CODE:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#BFE6E3"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="163dp"
        android:layout_height="25dp"
        android:text="1NH17CS123"
        android:textAlignment="center"
        android:textSize="18sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.319"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.897" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="224dp"
        android:layout_height="50dp"
        android:text="SMS SERVICE"
        android:textAlignment="center"
        android:textColor="@android:color/holo_green_dark"
        android:textSize="30sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.071" />

    <EditText
        android:id="@+id/et_mess"
        android:layout_width="277dp"
        android:layout_height="114dp"
        android:ems="10"
        android:hint="Type message"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/et_mob"
        android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Mobile Number"
        android:inputType="phone"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.333"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.332" />

<Button
    android:id="@+id/bt_send"
    android:layout_width="172dp"
    android:layout_height="60dp"
    android:backgroundTint="@color/colorPrimary"
    android:text="Send SMS"
    android:textSize="18sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.445"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.683" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA CODE:

```

package com.example.smsservice;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.content.ContextCompat;

import android.Manifest;
import android.app.PendingIntent;
import android.content.pm.PackageManager;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText et_mob, et_mess;
    Button bt_send;
    PendingIntent sentPI, deliveredPI;

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

```

```

et_mob = (EditText)findViewById(R.id.et_mob);
et_mess = (EditText)findViewById(R.id.et_mess);
bt_send = (Button)findViewById(R.id.bt_send);

bt_send.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        String message = et_mess.getText().toString();
        String telNr = et_mob.getText().toString();
        if(telNr.length()==10)
        {
            if (ContextCompat.checkSelfPermission(MainActivity.this,
Manifest.permission.SEND_SMS) != PackageManager.PERMISSION_GRANTED)
            {
                ActivityCompat.requestPermissions(MainActivity.this,
new String[]{Manifest.permission.SEND_SMS}, 1);
                Toast.makeText(getApplicationContext(), "SMS not
sent!", Toast.LENGTH_SHORT).show();
            }
            else
            {
                SmsManager sms = SmsManager.getDefault();
                sms.sendTextMessage(telNr, null, message, sentPI, deliveredPI);
                Toast.makeText(getApplicationContext(), "SMS sent
successfully!", Toast.LENGTH_SHORT).show();
            }
        } else
        {
            Toast.makeText(getApplicationContext(), "SMS not sent
!", Toast.LENGTH_SHORT).show();
            Toast.makeText(getApplicationContext(), "Enter 10 digit
number !", Toast.LENGTH_SHORT).show();
        }
    }
});
}
}

```

MANIFEST FILE:

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.smsservice">
    <uses-permission
        android:name="android.permission.SEND_SMS"/>
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category
                    android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>

```

```
        </intent-filter>
    </activity>
</application>

</manifest>
```