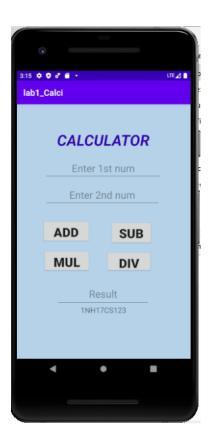
PROGRAM NO.: 1

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

OUTPUT SCREENSHOTS:



```
<?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"</pre>
```

```
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>
```

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

```
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</pre>
        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>
```

```
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);
    }
}
```

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

OUTPUT SCREENSHOTS:



```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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>
```

```
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 version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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"
```

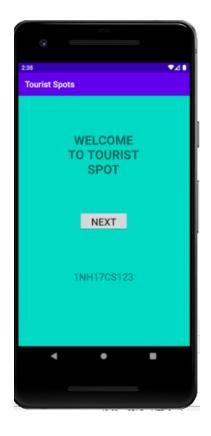
```
android:textStyle="bold"
   app:layout_constraintBottom_toBottomOf="parent"
   app:layout_constraintEnd_toEndOf="parent"
   app:layout_constraintStart_toStartOf="parent"
   app:layout_constraintTop_toTopOf="parent"
   app:layout_constraintVertical_bias="0.114" />
<TextView
   android:id="@+id/textView2"
   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>
```

```
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 |
|---|
| OUESTION, Design on any fer Tourist spet; With three activities, Walcome nego Display attractions |
| 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: |
| |
| |
| |
| |
| |
| |
| |





```
Main activity XML
   <?xml version="1.0" encoding="utf-8"?>
   <androidx.constraintlayout.widget.ConstraintLayout</pre>
   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:lavout 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</pre>
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</pre>
        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>
```

```
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"</pre>
```

```
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:supportsRtl="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 version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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>
```

Main Activity Code

```
package com.example.bgmplayer;
```

```
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.bgmplayer;
   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);
           //staring the player
             player.start();
```

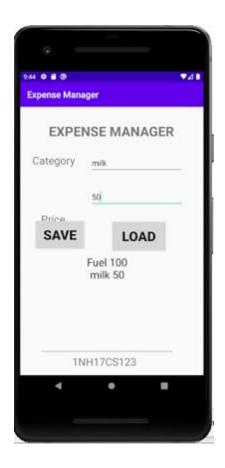
```
//start sticky means service will be explicity started and
stopped

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"</pre>
   package="com.example.bgmplayer">
    <application</pre>
        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</pre>
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 |
| The application should store all the expenses in a me |
| OUTPUT SCREENSHOTS: |
| |
| |
| |
| |
| |
| |
| |



```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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>
```

```
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();
}
}
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</pre>
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_backe
nd&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">AIzaSyDX120xv6I13ojORV-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);
```

MANIFEST FILE:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    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</pre>
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: supportsRtl="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</pre>
android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
```

```
</application>
```

</manifest>

PROGRAM NO.: 10

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

OUTPUT SCREENSHOTS:



```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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"</pre>
    package="com.example.smsservice">
      <uses-permission</pre>
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</pre>
android:name="android.intent.category.LAUNCHER" />
```