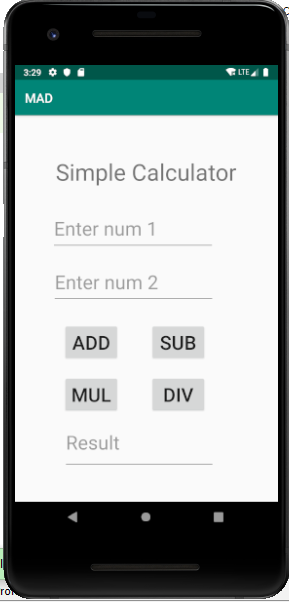
1. **SIMPLE CALULATOR ( Buttons )**

*<?***xml version="1.0" encoding="utf-8"***?>*<**androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"**>  
  
 <**TextView  
 android:id="@+id/textView"  
 android:layout\_width="329dp"  
 android:layout\_height="107dp"  
 android:gravity="center"  
 android:text="Simple Calculator"  
 android:textSize="36sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.068"** />  
  
 <**EditText  
 android:id="@+id/t1"  
 android:layout\_width="255dp"  
 android:layout\_height="69dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="Enter num 1"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.371"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.265"** />  
  
 <**EditText  
 android:id="@+id/t2"  
 android:layout\_width="254dp"  
 android:layout\_height="68dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="Enter num 2"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.375"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.422"** />  
  
 <**Button  
 android:id="@+id/addbtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="ADD"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.235"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.596"** />  
  
 <**Button  
 android:id="@+id/subbtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="SUB"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.656"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.596"** />  
  
 <**Button  
 android:id="@+id/mulbtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="MUL"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.235"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.746"** />  
  
 <**Button  
 android:id="@+id/divbtn"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="DIV"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.656"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.746"** />  
  
 <**EditText  
 android:id="@+id/res"  
 android:layout\_width="237dp"  
 android:layout\_height="85dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="Result"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.439"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.903"** />  
</**androidx.constraintlayout.widget.ConstraintLayout**>



**package** com.example.mad;  
  
**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 **t1**,**t2**,**res**;  
 Button **addbtn**,**subbtn**,**mulbtn**,**divbtn**;  
  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState)

{ **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 **t1** = (EditText) findViewById(R.id.***t1***);  
 **t2** = (EditText) findViewById(R.id.***t2***);  
 **res** = (EditText) findViewById(R.id.***res***);  
 **addbtn** = (Button) findViewById(R.id.***addbtn***);  
 **subbtn** = (Button) findViewById(R.id.***subbtn***);  
 **mulbtn** = (Button) findViewById(R.id.***mulbtn***);  
 **divbtn** = (Button) findViewById(R.id.***divbtn***);  
  
  
 **addbtn**.setOnClickListener(**new** View.OnClickListener()

{ @Override  
 **public void** onClick(View v) {  
 String v1 = **t1**.getText().toString();  
 String v2 = **t2**.getText().toString();  
 **int** a = Integer.*parseInt*(v1);  
 **int** b = Integer.*parseInt*(v2);  
 **int** c = a + b;  
 **res**.setText(**"Result ="** + c); }  
 });  
  
 **subbtn**.setOnClickListener(**new** View.OnClickListener()

{ @Override  
 **public void** onClick(View v) {  
 String v1 = **t1**.getText().toString();  
 String v2 = **t2**.getText().toString();  
 **int** a = Integer.*parseInt*(v1);  
 **int** b = Integer.*parseInt*(v2);  
 **int** c = a - b;  
 **res**.setText(**"Result ="** + c); }  
 });  
  
 **mulbtn**.setOnClickListener(**new** View.OnClickListener()

{ @Override  
 **public void** onClick(View v) {  
 String v1 = **t1**.getText().toString();  
 String v2 = **t2**.getText().toString();  
 **int** a = Integer.*parseInt*(v1);  
 **int** b = Integer.*parseInt*(v2);  
 **int** c = a \* b;  
 **res**.setText(**"Result ="** + c); }  
 });  
  
  
 **divbtn**.setOnClickListener(**new** View.OnClickListener()

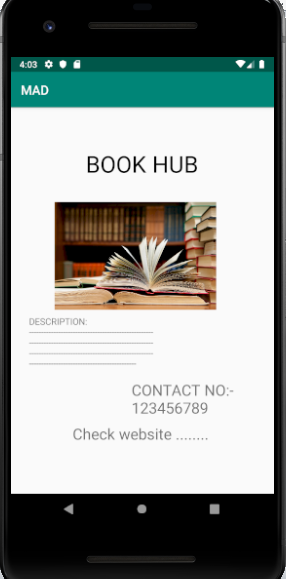
{ @Override  
 **public void** onClick(View v) {  
 String v1 = **t1**.getText().toString();  
 String v2 = **t2**.getText().toString();  
 **int** a = Integer.*parseInt*(v1);  
 **int** b = Integer.*parseInt*(v2);  
 **int** c = a / b;  
 **res**.setText(**"Result ="** + c); }  
 });  
 }  
}

1. **Business Application**

*<?***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/t1"  
 android:layout\_width="329dp"  
 android:layout\_height="107dp"  
 android:gravity="center"  
 android:text="BOOK HUB"  
 android:textSize="36sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.068"** />

<**ImageView  
 android:id="@+id/imageView3"  
 android:layout\_width="253dp"  
 android:layout\_height="188dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.436"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.331"  
 app:srcCompat="@drawable/a"** />

<**TextView  
 android:id="@+id/textView2"  
 android:layout\_width="195dp"  
 android:layout\_height="104dp"  
 android:text="DESCRIPTION: ----------------------------------------------------"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.134"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.649"** />

<**TextView  
 android:id="@+id/textView3"  
 android:layout\_width="174dp"  
 android:layout\_height="66dp"  
 android:text="CONTACT NO:- 123456789"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.797"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.79"** />

<**TextView  
 android:id="@+id/t2"  
 android:layout\_width="282dp"  
 android:layout\_height="52dp"  
 android:text="Check website ........"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.751"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.895"** />

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

**package** com.example.user.mad;  
**import** android.content.Intent;  
**import** android.net.Uri;  
**import** android.support.v7.app.AppCompatActivity;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.\*;

**public class** MainActivity **extends** AppCompatActivity

{ TextView **t1**;  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState)

{ **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_hello\_world***);  
 **t1**=(TextView)findViewById(R.id.***t1***);  
 **t1**.setOnClickListener(**new** View.OnClickListener()

{ @Override  
 **public void** onClick(View v) {  
 String url=**"https://www.bookhub.com"**;  
 Intent i=**new** Intent(Intent.***ACTION\_VIEW***,Uri.*parse*(url));

startActivity(i);

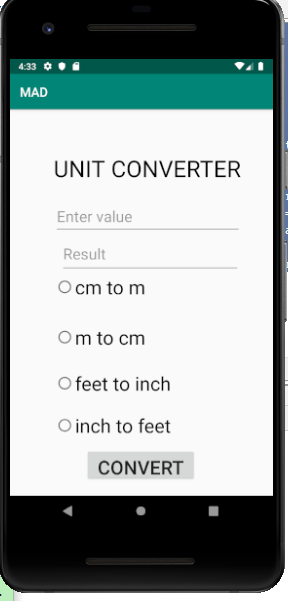
}

});

}

}

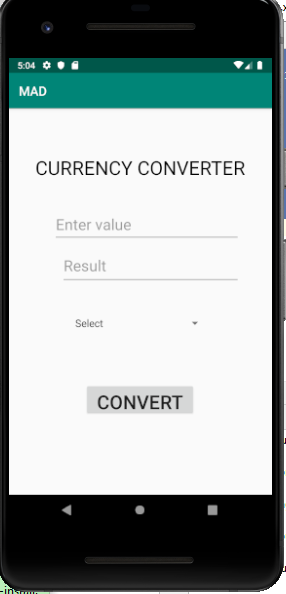
1. **UNIT CONVERTER ( Radio Buttons )**

*<?***xml version="1.0" encoding="utf-8"***?>*<**androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"**>  
  
 <**TextView  
 android:id="@+id/textView"  
 android:layout\_width="329dp"  
 android:layout\_height="107dp"  
 android:gravity="center"  
 android:text="UNIT CONVERTER"  
 android:textColor="#0A0A0A"  
 android:textSize="36sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.621"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.076"** />  
  
 <**EditText  
 android:id="@+id/t1"  
 android:layout\_width="292dp"  
 android:layout\_height="56dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="Enter value"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.588"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.254"** />  
  
 <**EditText  
 android:id="@+id/res"  
 android:layout\_width="280dp"  
 android:layout\_height="60dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="Result"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.608"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.36"** />  
  
 <**RadioGroup  
 android:id="@+id/radioGroup"  
 android:layout\_width="295dp"  
 android:layout\_height="299dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.603"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.773"**>  
  
 <**RadioButton  
 android:id="@+id/r1"  
 android:layout\_width="match\_parent"  
 android:layout\_height="83dp"  
 android:text="cm to m"  
 android:textSize="30sp"** />  
  
 <**RadioButton  
 android:id="@+id/r2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="74dp"  
 android:text="m to cm"  
 android:textSize="30sp"** />  
  
 <**RadioButton  
 android:id="@+id/r3"  
 android:layout\_width="match\_parent"  
 android:layout\_height="70dp"  
 android:text="feet to inch"  
 android:textSize="30sp"** />  
  
 <**RadioButton  
 android:id="@+id/r4"  
 android:layout\_width="match\_parent"  
 android:layout\_height="62dp"  
 android:text="inch to feet"  
 android:textSize="30sp"** />  
 </**RadioGroup**>  
  
 <**Button  
 android:id="@+id/btn"  
 android:layout\_width="173dp"  
 android:layout\_height="52dp"  
 android:text="CONVERT"  
 android:textSize="30sp"  
 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="0.959"** />  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>

**package** com.example.mad;  
  
**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 **t1**,**res**;  
 RadioButton **r1**,**r2**,**r3**,**r4**;  
 Button **btn**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState)  
 { **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 **t1**=(EditText)findViewById(R.id.***t1***);  
 **res**=(EditText)findViewById(R.id.***res***);  
 **r1**=(RadioButton)findViewById(R.id.***r1***);  
 **r2**=(RadioButton)findViewById(R.id.***r2***);  
 **r3**=(RadioButton)findViewById(R.id.***r3***);  
 **r4**=(RadioButton)findViewById(R.id.***r4***);  
 **btn**=(Button)findViewById(R.id.***btn***);  
  
 **btn**.setOnClickListener(**new** View.OnClickListener()  
 { @Override  
 **public void** onClick(View v)  
 { String a=**t1**.getText().toString();  
 **float** aa=Float.*parseFloat*(a);  
 **float** c;  
 **if**(**r1**.isChecked())  
 { c=aa/100;  
 **res**.setText(**"Result ="**+c);  
 }  
 **else if**(**r2**.isChecked())  
 { c=aa\*100;  
 **res**.setText(**"Result ="**+c);  
 }  
 **else if**(**r3**.isChecked())  
 { c=aa\*12;  
 **res**.setText(**"Result ="**+c);  
 }  
 **else if**(**r4**.isChecked())  
 { c=aa/12;  
 **res**.setText(**"Result ="**+c);  
 }  
 **else** {  
 Toast.*makeText*(MainActivity.**this**, **"Choose any one radio button"**, Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
 });  
 }  
}

1. **CURRENCY CONVERTER ( Spinner )**

*<?***xml version="1.0" encoding="utf-8"***?>*<**androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"**>  
  
 <**TextView  
 android:id="@+id/textView"  
 android:layout\_width="421dp"  
 android:layout\_height="106dp"  
 android:gravity="center"  
 android:text="CURRENCY CONVERTER"  
 android:textColor="#0A0A0A"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.078"** />  
  
 <**EditText  
 android:id="@+id/t1"  
 android:layout\_width="292dp"  
 android:layout\_height="56dp"  
 android:ems="10"  
 android:hint="Enter value"  
 android:inputType="textPersonName"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.588"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.28"** />  
  
 <**EditText  
 android:id="@+id/res"  
 android:layout\_width="280dp"  
 android:layout\_height="60dp"  
 android:ems="10"  
 android:hint="Result"  
 android:inputType="textPersonName"  
 android:textSize="24sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.625"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.396"** />  
  
 <**Button  
 android:id="@+id/btn"  
 android:layout\_width="173dp"  
 android:layout\_height="52dp"  
 android:text="CONVERT"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.777"** />  
  
 <**Spinner  
 android:id="@+id/s1"  
 android:layout\_width="219dp"  
 android:layout\_height="102dp"  
 android:entries="@array/app\_name"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.567"** />  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>



**package** com.example.mad;  
  
**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.Spinner;  
**import** android.widget.Toast;  
  
**public class** MainActivity **extends** AppCompatActivity  
{ EditText **t1**,**res**;  
 Spinner **s1**;  
 Button **btn**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState)  
 { **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 **t1**=(EditText)findViewById(R.id.***t1***);  
 **res**=(EditText)findViewById(R.id.***res***);  
 **s1**=(Spinner)findViewById(R.id.***s1***);  
 **btn**=(Button)findViewById(R.id.***btn***);  
  
 **btn**.setOnClickListener(**new** View.OnClickListener()  
 { @Override  
 **public void** onClick(View v)  
 { String v1=**t1**.getText().toString();  
 **int** a=Integer.*parseInt*(v1);  
 **int** x=**s1**.getSelectedItemPosition();  
 **double** num1=0;  
 **if**(x==1)  
 { num1=a/71.99;  
 **res**.setText(**"Result ="**+num1);  
 }  
  
 **else if**(x==2)  
 { num1=a\*71.99;  
 **res**.setText(**"Result ="**+num1);  
 }  
  
 **else if**(x==3)  
 { num1=a/0.68;  
 **res**.setText(**"Result ="**+num1);  
 }  
  
 **else if**(x==4)  
 { num1=a\*0.68;  
 **res**.setText(**"Result ="**+num1);  
 }  
  
 **else**

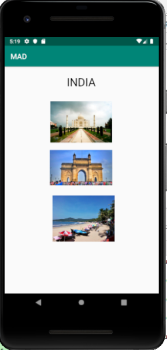
{ Toast.*makeText*(MainActivity.**this**, **"Choose any"**, Toast.***LENGTH\_SHORT***).show(); }  
   
 }  
 });  
 }  
}

res->values->string.xml

<**resources**>  
 <**string name="app\_name"**> MAD </**string**>  
 <**string-array name="app\_name"**>  
 <**item**>Select</**item**>  
 <**item**>Rupee to Dollor</**item**>  
 <**item**>Dollor to Rupee</**item**>  
 <**item**>Rupee to Yen</**item**>  
 <**item**>yen to Rupee</**item**>  
 </**string-array**>  
</**resources**>

1. **TOURIST SPOT**

*<?***xml version="1.0" encoding="utf-8"***?>*<**androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"**>  
  
 <**TextView  
 android:id="@+id/textView"  
 android:layout\_width="188dp"  
 android:layout\_height="55dp"  
 android:gravity="center"  
 android:text="INDIA"  
 android:textColor="#0A0A0A"  
 android:textSize="30sp"  
 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="0.023"** />  
  
 <**ImageView  
 android:id="@+id/ig1"  
 android:layout\_width="166dp"  
 android:layout\_height="110dp"  
 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="0.186"  
 app:srcCompat="@drawable/ig1"** />  
  
 <**ImageView  
 android:id="@+id/ig3"  
 android:layout\_width="167dp"  
 android:layout\_height="98dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.495"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.434"  
 app:srcCompat="@drawable/ig2"** />  
  
 <**ImageView  
 android:id="@+id/ig4"  
 android:layout\_width="179dp"  
 android:layout\_height="123dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.525"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.713"  
 app:srcCompat="@drawable/ig3"** />  
  
</**androidx.constraintlayout.widget.ConstraintLayout**>



**package** com.example.mad;  
  
  
**import** android.content.Intent;  
**import** android.net.Uri;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.ImageView;  
**import** android.widget.Toast;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
  
  
**public class** MainActivity **extends** AppCompatActivity  
{ ImageView **ig1**,**ig2**,**ig3**;  
 @Override  
  
 **protected void** onCreate(Bundle savedInstanceState)  
 { **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 **ig1**=(ImageView)findViewById(R.id.***ig1***);  
 **ig2**=(ImageView)findViewById(R.id.***ig2***);  
 **ig3**=(ImageView)findViewById(R.id.***ig3***);  
  
 **ig1**.setOnClickListener(**new** View.OnClickListener()  
 { @Override  
 **public void** onClick(View v) {  
 Toast.*makeText*(MainActivity.**this**, **"Agra UP"**, Toast.***LENGTH\_SHORT***).show();  
 String url=**"https://en.wikipedia.org/agra"**;  
 Intent i1=**new** Intent(Intent.***ACTION\_VIEW***, Uri.*parse*(url));  
 startActivity(i1);  
 }  
 });  
  
  
 **ig2**.setOnClickListener(**new** View.OnClickListener()  
 { @Override  
 **public void** onClick(View v) {  
 Toast.*makeText*(MainActivity.**this**,**"Gateway of India"**, Toast.***LENGTH\_SHORT***).show();  
 String url=**"https://en.wikipedia.org/wiki/gateway of india"**;  
 Intent i2=**new** Intent(Intent.***ACTION\_VIEW***, Uri.*parse*(url));  
 startActivity(i2);  
 }  
 });  
  
  
 **ig3**.setOnClickListener(**new** View.OnClickListener()  
 { @Override  
 **public void** onClick(View v) {  
 Toast.*makeText*(MainActivity.**this**, **"charminar"**, Toast.***LENGTH\_SHORT***).show();  
 String url=**" https://en.wikipedia.org/wiki/charminar"**;  
 Intent i3=**new** Intent(Intent.***ACTION\_VIEW***, Uri.*parse*(url));  
 startActivity(i3);  
 }  
 });  
  
 }  
}

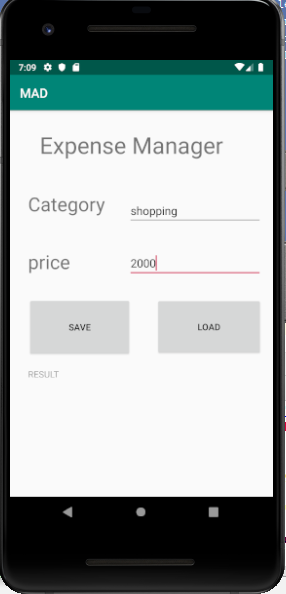
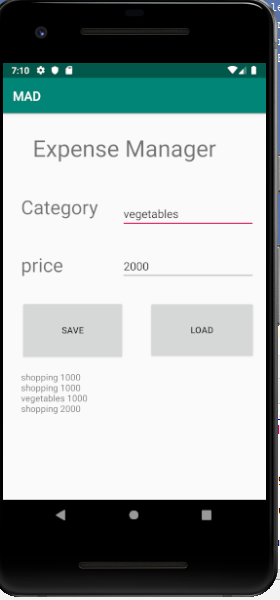
# PROGRAM 6:

# PROBLEM STATEMENT: Develop an android mobile application for Expense Manager (Files)

*<?***xml version="1.0" encoding="utf-8"***?>*<**androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"**>  
  
 <**TextView  
 android:id="@+id/textView"  
 android:layout\_width="316dp"  
 android:layout\_height="70dp"  
 android:text="Expense Manager"  
 android:textSize="36sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.494"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.054"** />  
  
 <**TextView  
 android:id="@+id/textView2"  
 android:layout\_width="142dp"  
 android:layout\_height="63dp"  
 android:text="Category"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.107"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.232"** />  
  
 <**TextView  
 android:id="@+id/textView3"  
 android:layout\_width="142dp"  
 android:layout\_height="58dp"  
 android:text="price"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.107"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.395"** />  
  
 <**EditText  
 android:id="@+id/et\_cat"  
 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="0.919"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.24"** />  
  
 <**EditText  
 android:id="@+id/et\_price"  
 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="0.919"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.387"** />  
  
 <**Button  
 android:id="@+id/button1"**

**android:layout\_width="162dp"  
 android:layout\_height="93dp"  
 android:text="SAVE"  
 android:onClick="save"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.116"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.572"** />  
  
 <**Button  
 android:id="@+id/button2"  
 android:layout\_width="166dp"  
 android:layout\_height="91dp"  
 android:text="LOAD"  
 android:onClick="load"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.934"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.57"** />  
  
 <**TextView  
 android:id="@+id/tv\_output"  
 android:layout\_width="186dp"  
 android:layout\_height="79dp"  
 android:hint="RESULT"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.128"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.766"** />

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

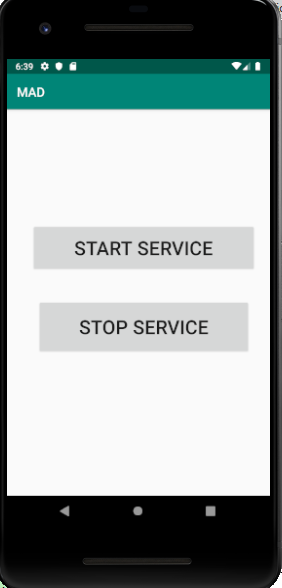
 

**package** com.example.mad;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.EditText;  
**import** android.widget.TextView;  
**import** java.io.BufferedReader;  
**import** java.io.FileInputStream;  
**import** java.io.FileNotFoundException;  
**import** java.io.FileOutputStream;  
**import** java.io.InputStreamReader;  
  
**public class** MainActivity **extends** AppCompatActivity  
{  
 String **s1**, **s2**;  
 EditText **et1**, **et2**;  
 TextView **tv1**;  
 @Override  
  
 **protected void** onCreate(Bundle savedInstanceState)  
 { **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 **et1**=(EditText)findViewById(R.id.***et\_cat***);  
 **et2**=(EditText)findViewById(R.id.***et\_price***);  
 **tv1**=(TextView)findViewById(R.id.***tv\_output***);  
 }  
  
 **public void** save (View view)  
 { **s1** = **et1**.getText().toString();  
 **s2** = **s1**+ **" "**+**et2**.getText().toString()+**"\n"**;  
  
 **try** { FileOutputStream fos = openFileOutput(**"file1.txt"**, ***MODE\_APPEND***);  
 fos.write(**s2**.getBytes());  
 }  
 **catch** (FileNotFoundException e)  
 { e.printStackTrace(); }  
  
 **catch** (Exception e)  
 { e.printStackTrace(); }  
 }  
  
 **public void** load (View v)  
 { **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"**);  
 }  
  
 **tv1**.setText (sb.toString());  
 }  
 **catch** (FileNotFoundException e)  
 { e.printStackTrace(); }  
  
 **catch** (Exception e)  
 { e.printStackTrace(); }  
 }  
}

# PROGRAM 7:

# PROBLEM STATEMENT: Develop an android mobile application for Music in Background

*<?***xml version="1.0" encoding="utf-8"***?>*<**androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"**>  
  
 <**Button  
 android:id="@+id/btnStart"  
 android:layout\_width="351dp"  
 android:layout\_height="76dp"  
 android:text="Start Service"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.65"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.337"** />  
  
 <**Button  
 android:id="@+id/btnStop"  
 android:layout\_width="333dp"  
 android:layout\_height="86dp"  
 android:text="Stop Service"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.615"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.572"** />  
</**androidx.constraintlayout.widget.ConstraintLayout**>



**package** com.example.mad;  
  
**import** android.content.Intent;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** com.example.musicplayer.MediaService;  
**import** com.example.musicplayer.R;  
  
**public class** MainActivity **extends** AppCompatActivity {  
  
 **private** Button **bStart**;  
 **private** Button **bStop**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
  
  
  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 **bStart** = (Button) findViewById(R.id.***btnStart***);  
 **bStop** = (Button) findViewById(R.id.***btnStop***);  
  
 **bStart**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 startService(**new** Intent(getApplicationContext(), MediaService.**class**));  
 }  
 });  
  
 **bStop**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 stopService(**new** Intent(getApplicationContext(), MediaService.**class**));  
 }  
 });  
 }  
}

**Create a new Empty Activity – MediaService**

**package** com.example.mad;  
  
**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**; }  
  
 @Override  
 **public int** onStartCommand(Intent intent, **int** flags, **int** startId)  
 { *//getting systems default ringtone* **player** = MediaPlayer.*create*(**this**, Settings.System.***DEFAULT\_RINGTONE\_URI***);  
 *// player = MediaPlayer.create(this,R.raw.song3);* **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();  
 }  
  
  
}

**in Manifest folder**

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

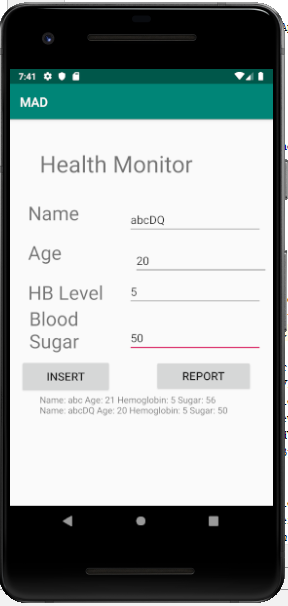
**Note : Everything will come automatically, except** <**service android:name=".MediaService"** />

**Check and Add this line**

# PROGRAM 8:

# PROBLEM STATEMENT: Develop an android mobile application for Health Monitoring (Database)

*<?***xml version="1.0" encoding="utf-8"***?>*<**androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"**>  
  
 <**TextView  
 android:id="@+id/textView"  
 android:layout\_width="316dp"  
 android:layout\_height="70dp"  
 android:text="Health Monitor"  
 android:textSize="36sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.494"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.083"** />  
  
 <**TextView  
 android:id="@+id/textView2"  
 android:layout\_width="142dp"  
 android:layout\_height="63dp"  
 android:text="Name"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.107"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.232"** />  
  
 <**TextView  
 android:id="@+id/textView3"  
 android:layout\_width="142dp"  
 android:layout\_height="58dp"  
 android:text="Age"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.107"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.343"** />  
  
 <**EditText  
 android:id="@+id/et\_name"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="textPersonName"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.919"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.24"** />  
  
 <**EditText  
 android:id="@+id/et\_age"  
 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="0.964"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.355"** />  
  
 <**TextView  
 android:id="@+id/textView5"  
 android:layout\_width="134dp"  
 android:layout\_height="41dp"  
 android:text="HB Level"  
 android:textSize="30sp"  
 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="0.444"** />  
  
 <**TextView  
 android:id="@+id/textView6"  
 android:layout\_width="128dp"  
 android:layout\_height="86dp"  
 android:text="Blood Sugar"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.109"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.561"** />  
  
 <**EditText  
 android:id="@+id/et\_hb"  
 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="0.919"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.441"** />  
  
 <**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="0.919"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.571"** />  
  
 <**Button  
 android:layout\_width="142dp"  
 android:layout\_height="53dp"  
 android:onClick="insert"  
 android:text="INSERT"  
 android:textSize="18sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.064"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.68"** />  
  
 <**Button  
 android:id="@+id/button2"  
 android:layout\_width="152dp"  
 android:layout\_height="50dp"  
 android:onClick="report"  
 android:text="REPORT"  
 android:textSize="18sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.877"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.678"** />  
  
 <**TextView  
 android:id="@+id/tv\_report"  
 android:layout\_width="304dp"  
 android:layout\_height="138dp"  
 android:hint="RESULT"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.439"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.919"** />  
</**androidx.constraintlayout.widget.ConstraintLayout**>



**package** com.example.mad;  
  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** android.database.Cursor;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.EditText;  
**import** android.widget.TextView;  
**import** android.widget.Toast;  
**public class** MainActivity **extends** AppCompatActivity  
{ DatabaseHelper **db**;  
 EditText **name**;  
 EditText **age**;  
 EditText **hb**;  
 EditText **sugar**;  
 TextView **tv**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState)  
 { **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 **db** = **new** DatabaseHelper(**this**);  
 **name** = (EditText) findViewById(R.id.***et\_name***);  
 **age** = (EditText) findViewById(R.id.***et\_age***);  
 **hb** = (EditText) findViewById(R.id.***et\_hb***);  
 **sugar** = (EditText) findViewById(R.id.***et\_sugar***);  
 **tv**= (TextView)findViewById(R.id.***tv\_report***);  
 }  
  
 **public void** insert (View view)  
 { **boolean** status = **db**.insert(**name**.getText().toString(),  
 Integer.*parseInt*(**age**.getText().toString()),  
 Integer.*parseInt*(**hb**.getText().toString()),  
 Integer.*parseInt*(**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**.setText(buf);  
 }  
 /\***public void** cleartext (View view)  
 { **name**.setText(**""**);  
 **age**.setText(**""**);  
 **hb**.setText(**""**);  
 **sugar**.setText(**""**);  
 }\*/  
}

// A **Java Cursor** is an Iterator, which is used to iterate or traverse or retrieve a Collection or Stream object's elements one by one.

**Create new empty activity – DatabaseHelper**

**package** com.example.mad;  
  
**import** android.content.ContentValues;  
**import** android.content.Context;  
**import** android.database.Cursor;  
**import** android.database.sqlite.SQLiteDatabase;  
**import** android.database.sqlite.SQLiteOpenHelper;  
  
**public class** DatabaseHelper **extends** SQLiteOpenHelper  
{ DatabaseHelper (Context context)  
 {  
 **super**(context, **"Health.db"**,**null**,1); }  
  
 @Override  
 **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;  
 }  
}

//ContentValues: This class is used to store a set of values

# PROGRAM 9:

# PROBLEM STATEMENT: Develop an android mobile application for SMS

# CONCEPT & PROCEDURE:

Step 1: Opening a new project

* + Open Android Studio and open a new project by just click of File option
  + Then click on new and open a new project with whatever name you want.
  + Now work on Empty Activity with language as Java. Leave all other options as untouched.

# Step 2: Designing the UI in **activity\_main.xml by including** as many no. of TextViews, EditText, Spinner components

# Step 3: Design the spinner by using String.xml

Step 4: Working with Java file MainActivity.java. Use *android.telephony.SmsManager* for handling Telephony services

# Step 5: Run the mobile application

*<?***xml version="1.0" encoding="utf-8"***?>*<**androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"**>  
 <**TextView  
 android:id="@+id/textView"  
 android:layout\_width="93dp"  
 android:layout\_height="55dp"  
 android:text="SMS"  
 android:textSize="36sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.494"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.083"** />

<**EditText  
 android:id="@+id/msg"  
 android:layout\_width="345dp"  
 android:layout\_height="59dp"  
 android:ems="10"  
 android:inputType="textPersonName"  
 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="0.633"** />

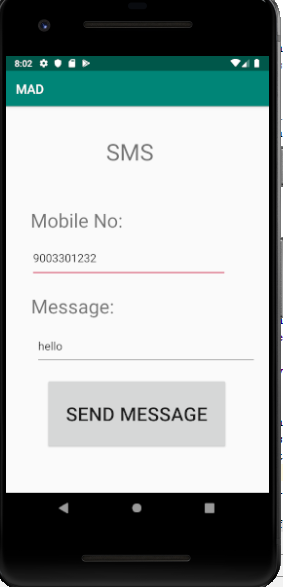
<**Button  
 android:id="@+id/send"  
 android:layout\_width="284dp"  
 android:layout\_height="112dp"  
 android:onClick="report"  
 android:text="Send Message"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.496"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.862"** />

<**TextView  
 android:id="@+id/textView7"  
 android:layout\_width="159dp"  
 android:layout\_height="43dp"  
 android:text="Mobile No:"  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.156"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.28"** />

<**TextView  
 android:id="@+id/textView8"  
 android:layout\_width="147dp"  
 android:layout\_height="49dp"  
 android:text="Message: "  
 android:textSize="30sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.152"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.526"** />

<**EditText  
 android:id="@+id/mb"  
 android:layout\_width="307dp"  
 android:layout\_height="61dp"  
 android:ems="10"  
 android:inputType="phone"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.375"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.38"** />

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

****

**package** com.example.mad;  
**import** android.Manifest;  
**import** android.app.Activity;  
**import** android.app.PendingIntent;  
**import** android.content.BroadcastReceiver;  
**import** android.content.Context;  
**import** android.content.Intent;  
**import** android.content.IntentFilter;  
**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;  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** androidx.core.app.ActivityCompat;  
**import** androidx.core.content.ContextCompat;

**public class** MainActivity **extends** AppCompatActivity  
{ EditText **etPhone**, **etMessage**;  
 Button **btnSendSMS**;  
 PendingIntent **sentPI**, **deliveredPI**;

@Override  
 **protected void** onCreate(Bundle savedInstanceState)  
 { **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);

**etPhone** = (EditText) findViewById(R.id.***mb***);  
 **etMessage** = (EditText) findViewById(R.id.***msg***);  
 **btnSendSMS** = (Button) findViewById(R.id.***send***);

**btnSendSMS**.setOnClickListener(**new** View.OnClickListener()  
 { @Override  
 **public void** onClick(View v)  
 { String message = **etMessage**.getText().toString();  
 String telNr = **etPhone**.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();  
 }  
 }  
 });  
 }  
}

**In manifest**

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

**Note: everything will be there automatically, check permission and add**

<**uses-permission android:name=”android.permission.SEND\_SMS”** />

# PROGRAM 10:

# PROBLEM STATEMENT: Develop an android mobile application for Map

# CONCEPT & PROCEDURE:

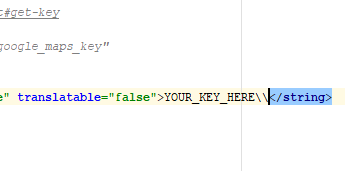
Step 1:- create a Google Map Activity ( file -> new project -> google map activity )

Step 2:- in google\_map\_api.xml, click on first link ([*https://console.developers.google.com/flows/enableapi?apiid=maps\_android\_backend&keyType=CLIENT\_SIDE\_ANDROID&r=E2:B7:D0:A1:8B:ED:EE:80:77:F8:A5:BC:13:B8:26:71:AD:D5:D9:DB%3Bcom.example.mymap*](https://console.developers.google.com/flows/enableapi?apiid=maps_android_backend&keyType=CLIENT_SIDE_ANDROID&r=E2:B7:D0:A1:8B:ED:EE:80:77:F8:A5:BC:13:B8:26:71:AD:D5:D9:DB%3Bcom.example.mymap))

Or copy paste in browser

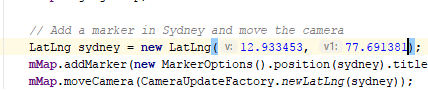
Step 3:- click on continue - > create API key -> copy the api key created

Step 4:- paste the key in google\_map\_api.xml



Step 5:- Google, New Horizon College Latitude and Longitude

Step 6:- paste the latitude and longitude in MapsActivity.java



Step 7:- save, build and run

