EXP1--calculator---

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

```xml
        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"
```

```xml
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.903" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

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);
```

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

EXP2 Small bussness app---

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android: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/download" />
    <TextView
        android:id="@+id/textView2"
        android:layout_width="195dp"
        android:layout_height="104dp"
```

```xml
        android:text="This is a discription"
        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.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.content.Intent;
import android.net.Uri;
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_main);
        t1=(TextView)findViewById(R.id.t2);

        t1.setOnClickListener(new View.OnClickListener() {
```

```java
        @Override
        public void onClick(View v) {
            String url="https://books.google.com/";
            Intent i=new Intent(Intent.ACTION_VIEW,Uri.parse(url));
            startActivity(i);
        }
    });
  }
}
```

Exp 3 Visitting Card--

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

    <TextView
        android:id="@+id/textView7"
        android:layout_width="303dp"
        android:layout_height="40dp"
        android:text="Bharath Group"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.388"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.306" />

    <ImageView
        android:id="@+id/imageView3"
        android:layout_width="255dp"
        android:layout_height="163dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.423"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.056"
        app:srcCompat="@drawable/download" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="303dp"
        android:layout_height="40dp"
        android:text="Name: BHARATH"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.388"
```

```xml
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.409" />

    <TextView
            android:id="@+id/textView3"
            android:layout_width="303dp"
            android:layout_height="40dp"
            android:text="Disignation: -----"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintHorizontal_bias="0.388"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.499" />

    <TextView
            android:id="@+id/textView4"
            android:layout_width="303dp"
            android:layout_height="40dp"
            android:text="Phone:1234567890"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintHorizontal_bias="0.388"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.602" />

    <TextView
            android:id="@+id/textView5"
            android:layout_width="303dp"
            android:layout_height="40dp"
            android:text="Address:------------"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintHorizontal_bias="0.388"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.7" />

    <TextView
            android:id="@+id/textView6"
            android:layout_width="303dp"
            android:layout_height="40dp"
            android:text="Email:example@gmail.com"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintHorizontal_bias="0.388"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.78" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Exp 4 UNIT CONVERTER--

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

```xml
        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.myapplication;

import androidx.appcompat.app.AppCompatActivity;

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

```java
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();
            }
        }
        });
    }
}
```

Exp 5 CURRENCY CONVERTER (Spinner)--


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

```xml
    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"
```

```xml
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>
```

```java
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);
 }
```

```java
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
```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>
```

Exp 6. LOGIN PAGE (Explict Intents)--

Develop an Android application using Explicit intent to display the login page. On giving the wrong credent
ials it
should display the toast message and if credentials are correct it should display Welcome and the userna
me.

Activity_main.xml :
```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
 xmlns:app="http://schemas.android.com/apk/res-auto"
 xmlns:tools="http://schemas.android.com/tools"
 android:layout_width="match_parent"
 android:layout_height="match_parent"
 tools:context=".MainActivity">
 <TextView
 android:id="@+id/tv1"
 android:layout_width="73dp"
 android:layout_height="30dp"
 android:text="User Name"
 app:layout_constraintBottom_toBottomOf="parent"
 app:layout_constraintEnd_toEndOf="parent"
 app:layout_constraintHorizontal_bias="0.114"
 app:layout_constraintStart_toStartOf="parent"
 app:layout_constraintTop_toTopOf="parent"
 app:layout_constraintVertical_bias="0.237" />
 <EditText
 android:id="@+id/name"
 android:layout_width="wrap_content"
```

```xml
        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="0.845"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.241" />
    <TextView
        android:id="@+id/tv2"
        android:layout_width="83dp"
        android:layout_height="45dp"
        android:text="Password"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.14"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.403" />
    <EditText
        android:id="@+id/pwd"
        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="0.85"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.403" />
    <Button
        android:id="@+id/btn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="LOGIN"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.399"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.549" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java :
```java
package com.example.loginpage;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
```

```java
import android.widget.Toast;
import android.content.Intent;
public class MainActivity extends AppCompatActivity
{
 EditText e1, e2;
 TextView t1, t2;
 Button btn;
 @Override
 protected void onCreate(Bundle savedInstanceState)
 {
 super.onCreate(savedInstanceState);
 setContentView(R.layout.activity_main);
 e1 = (EditText) findViewById(R.id.name);
 e2 = (EditText) findViewById(R.id.pwd);
 t1 = (TextView) findViewById(R.id.tv1);
 t2 = (TextView) findViewById(R.id.tv2);
 btn = (Button) findViewById(R.id.btn);
 btn.setOnClickListener(new View.OnClickListener()
 {
 @Override
 public void onClick(View view) {
 if (e1.getText().toString().equals("bharath") &&
e2.getText().toString().equals("bharath"))
 {
 Toast.makeText(getApplicationContext(), "Login Success",
Toast.LENGTH_LONG).show();
 Intent i1 = new Intent(getApplicationContext(), Welcome.class);
 i1.putExtra("username", e1.getText().toString());
 startActivity(i1);
 } else
 {
Toast.makeText(getApplicationContext(), "Login Failure",
Toast.LENGTH_LONG).show();
 }
 }
 });
 }
}
```

To create the other pair of xml and java file click on java folder on the right side
goto mainactivity, right click -> New -> Activity -> Empty activity and give the
filename same as the name you given in intent as a second parameter without the
extension.

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

```xml
    <TextView
    android:id="@+id/tview"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Welcome.java :

```java
package com.example.loginpage;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
import android.widget.Toast;
public class Welcome extends AppCompatActivity {
 @Override
 protected void onCreate(Bundle savedInstanceState) {
 super.onCreate(savedInstanceState);
 setContentView(R.layout.activity_welcome);
 Bundle b1 = getIntent().getExtras();
 String s1 = b1.getString("username");
 TextView tv1 = (TextView) findViewById(R.id.tview);
 tv1.setText("Login Successfull Welcome :" + s1);
 }
}
```

EXP 7. GALLERY AND DIAL (Implict Intents)---

Develop an Android application using Implicit intent to display the Gallery and Dial buttons. On clicking these
buttons, it should goto the respective pages.

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
 xmlns:app="http://schemas.android.com/apk/res-auto"
 xmlns:tools="http://schemas.android.com/tools"
 android:layout_width="match_parent"
 android:layout_height="match_parent"
 tools:context=".MainActivity">
 <Button
 android:id="@+id/gal"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 android:text="Gallery"
 app:layout_constraintBottom_toBottomOf="parent"
 app:layout_constraintEnd_toEndOf="parent"
 app:layout_constraintStart_toStartOf="parent"
 app:layout_constraintTop_toTopOf="parent"
 app:layout_constraintVertical_bias="0.247" />
 <EditText
```

```xml
    android:id="@+id/et"
    android:layout_width="247dp"
    android:layout_height="49dp"
    android:ems="10"
    android:hint="Enter Phone Number"
    android:inputType="textShortMessage|textPersonName|textEmailAddress|phone"
    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="0.445" />
    <Button
    android:id="@+id/dial"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Dial"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.657" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

```java
package com.example.galleryanddial;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.net.Uri;
import android.view.View;
import android.widget.*;
public class MainActivity extends AppCompatActivity {
 EditText et;
 Button dial,gal;
 @Override
 protected void onCreate(Bundle savedInstanceState) {
 super.onCreate(savedInstanceState);
 setContentView(R.layout.activity_main);
 et=(EditText) findViewById(R.id.et);
 dial=(Button)findViewById(R.id.dial);
 gal=(Button)findViewById(R.id.gal);
 gal.setOnClickListener(new View.OnClickListener() {
 @Override
 public void onClick(View view) {
 Intent i=new Intent();
 i.setAction(Intent.ACTION_VIEW);
 i.setData(Uri.parse("content://media/external/images/media/"));
 startActivity(i);
 }
 });
 dial.setOnClickListener(new View.OnClickListener() {
 @Override
 public void onClick(View view) {
 Intent i = new Intent();
```

```java
i.setAction(Intent.ACTION_DIAL);
i.setData(Uri.parse("tel:"+et.getText()));
startActivity(i);
}
});
}
}
```

EXP 8. TOURIST SPOT (Explicit and Implict Intents) -------------------------------------

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android: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/ig2"
        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" />
```

```xml
    <ImageView
        android:id="@+id/ig3"
        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>
```

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.content.Intent;
import android.net.Uri;
import android.view.View;
import android.widget.ImageView;
import android.widget.Toast;

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) {
```

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

EXP 9.Music in Background (Services)---

Develop an Android application to play music in background

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

```java
package com.example.myapplication;

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

```java
import android.content.Intent;
import android.view.View;
import android.widget.Button;
import com.example.myapplication.MediaService;
import com.example.myapplication.R;
public class MainActivity extends AppCompatActivity implements View.OnClickListener
{ 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(this);
      bStop.setOnClickListener(this);
   }
   @Override
   public void onClick(View view)
   { if (view == bStart)
   { startService(new Intent(this, MediaService.class)); }
   else if (view == bStop)
   { stopService(new Intent(this, MediaService.class)); }
   }
}
```

Create a new Empty Activity – MediaService
```java
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()
```

```java
 { super.onDestroy();
//stopping the player when service is destroyed
player.stop();
 }
}
```

in Manifest folder
```xml
<?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

Exp 10 Hospital database using files(Files)---

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

    <TextView
        android:id="@+id/textView"
        android:layout_width="316dp"
        android:layout_height="70dp"
        android:text="Hospital Database"
        android:textSize="36sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.494"
```

```xml
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.054" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="141dp"
        android:layout_height="62dp"
        android:text="Hospital id:"
        android:textSize="25sp"
        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="Name:"
        android:textSize="25sp"
        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" />

    <TextView
        android:id="@+id/textView3a"
        android:layout_width="142dp"
        android:layout_height="58dp"
        android:text="Location:"
        android:textSize="25sp"
        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="0.555" />


    <EditText
        android:id="@+id/Hid"
        android:layout_width="214dp"
        android:layout_height="55dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.918"
        app:layout_constraintStart_toStartOf="parent"
        android:hint="id"
```

```xml
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.229" />

    <EditText
        android:id="@+id/Hname"
        android:layout_width="212dp"
        android:layout_height="61dp"
        android:ems="10"
        android:hint="name"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.894"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.397" />

    <EditText
        android:id="@+id/Hlocation"
        android:layout_width="209dp"
        android:layout_height="54dp"
        android:ems="10"
        android:hint="location"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.92"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.564" />

    <Button
        android:layout_width="162dp"
        android:layout_height="93dp"
        android:onClick="save"
        android:text="SAVE"
        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="0.761" />

    <Button
        android:id="@+id/button2"
        android:layout_width="166dp"
        android:layout_height="91dp"
        android:onClick="load"
        android:text="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="0.762" />
```

```xml
        <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="0.071"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.946" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

```java
package com.example.exp10;

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,et3;
    TextView tv1;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    { super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        et1=(EditText)findViewById(R.id.Hid);
        et2=(EditText)findViewById(R.id.Hname);
        et3=(EditText)findViewById(R.id.Hlocation);
        tv1=(TextView)findViewById(R.id.tv_output);
    }
    public void save (View view)
    { s1 = et1.getText().toString();
        s2 = s1+ "  "+et2.getText().toString()+ "  "+et3.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(); }
    }
```

```java
    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(); }
    }
}
```

Exp 11 Expense Manager (Files)---

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

    <TextView
        android: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"
```

```xml
    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:layout_width="162dp"
    android:layout_height="93dp"
    android:onClick="save"
    android:text="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" />
```

```xml
    <Button
        android:id="@+id/button2"
        android:layout_width="166dp"
        android:layout_height="91dp"
        android:onClick="load"
        android:text="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>
```

```java
package com.example.myapplication;

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);
    }
```

```java
    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(); }
    }
}
```

Exp 12 studdent database --

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

    <TextView
        android:id="@+id/textView"
        android:layout_width="316dp"
        android:layout_height="70dp"
        android:text="Student database"
        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" />
```

```xml
<TextView
    android:id="@+id/textView2"
    android:layout_width="142dp"
    android:layout_height="63dp"
    android:text="USN"
    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="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="0.343" />

<EditText
    android:id="@+id/Susn"
    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/Sname"
    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"
```

```xml
    android:layout_width="134dp"
    android:layout_height="41dp"
    android:text="Sem"
    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="150dp"
    android:layout_height="59dp"
    android:text="Department"
    android:textSize="25sp"
    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/Ssem"
    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/Sdepartment"
    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"
```

```xml
            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>
```

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.database.Cursor;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity
{ DatabaseHelper db;
    EditText usn;
    EditText name;
    EditText sem;
    EditText department;
    TextView tv;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    { super.onCreate(savedInstanceState);
```

```java
        setContentView(R.layout.activity_main);
        db = new DatabaseHelper(this);
        usn = (EditText) findViewById(R.id.Susn);
        name = (EditText) findViewById(R.id.Sname);
        sem = (EditText) findViewById(R.id.Ssem);
        department = (EditText) findViewById(R.id.Sdepartment);
        tv= (TextView)findViewById(R.id.tv_report);
    }
    public void insert (View view)
    { boolean status = db.insert(usn.getText().toString(), name.getText().toString(), sem.getText().toString()
, department.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 ("USN: "+c.getString(1));
            buf.append (" Name: "+c.getString(2));
            buf.append (" Sem: "+c.getString(3));
            buf.append (" Department: "+c.getString(4));
            buf.append("\n");
        }
        tv.setText(buf);
    }
/*public void cleartext (View view)
{ name.setText("");
age.setText("");
hb.setText("");
sugar.setText("");
}*/
}

Create new empty activity – DatabaseHelper

package com.example.myapplication;

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, "student.db",null,1); }
    @Override
    public void onCreate (SQLiteDatabase sqLiteDatabase)
    { sqLiteDatabase.execSQL("CREATE TABLE LAB ( STUID integer PRIMARY KEY AUTOINCREMENT
, USN TEXT, NAME  TEXT, SEM TEXT, DEPART TEXT );");
    }
    @Override
    public void onUpgrade (SQLiteDatabase sqLiteDatabase, int i, int i1)
```

```java
    { sqLiteDatabase.execSQL("DROP TABLE IF EXISTS LAB ");
        onCreate(sqLiteDatabase);
    }
    public boolean insert (String usn, String name, String sem, String department)
    { SQLiteDatabase db = this.getWritableDatabase();
        ContentValues cv = new ContentValues();
        cv.put("USN", usn);
        cv.put("NAME", name);
        cv.put("SEM",sem);
        cv.put("DEPART",department);
        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;
    }
}
```

Exp 13 Health Monitoring ---

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

    <TextView
        android: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"
```

```xml
        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"
```

```xml
        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"
```

```xml
            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>
```

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

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

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);
```

```java
        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("");
}*/
}
```

Create new empty activity – DatabaseHelper

```java
package com.example.myapplication;

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();
```

```java
            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;
        }
}
```

Exp 14 SMS Application --

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

    <TextView
        android: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"
```

```xml
        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>
```

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.Manifest;
import android.app.PendingIntent;
import android.content.pm.PackageManager;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
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
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <uses-feature
        android:name="android.hardware.telephony"
        android:required="false" />
    <uses-permission android:name="android.permission.SEND_SMS"/>
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.MyApplication"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

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

</manifest>
```

Note: everything will be there automatically, check permission and Add
<uses-permission android:name="android.permission.SEND_SMS"/>
or
 <uses-feature
        android:name="android.hardware.telephony"
        android:required="false" />
    <uses-permission android:name="android.permission.SEND_SMS"/>

Exp 15 google maps Application --

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_AND
ROID&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:-