Practical Assignment

Subject :- Mobile Application Development

01. Demonstrate different Layouts with different views in android Layouts- ConstraintLayout, RelativeLayout, TableLayout Views- Button, TextView, EditText, WebView, CheckBox, RadioButton, ToggleButton, ImageButton, RatingBar, ProgressBar, SeekBar, VideoView, DatePicker, CalendarView, and Spinner

1. A. Create “Hello World” application. That will display “Hello World” in the middle of the screen in the red color with white background.

Code :

MainActivity.java

```
package com.example.helloworld

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

MainActivity.xml

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

   <TextView
```

```
        android:layout_width="157dp"
        android:layout_height="46dp"
        android:text="Hello World !"
        android:textAlignment="center"
        android:textColor="#F11606"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.499" />

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

Output :-

1.B. Addition of two numbers, get the numbers using 2 text boxes and add them, And show the result on toast.

Code:
MainActivity.java

```
package com.example.additionoftwonos;

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;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
   private EditText num1, num2;
   private Button sum;
   private TextView answer;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      addListenerOnButton();
   }
   public void addListenerOnButton(){
      num1=(EditText) findViewById(R.id.num1);
      num2=(EditText) findViewById(R.id.num2);
      sum=(Button) findViewById(R.id.sum);

      sum.setOnClickListener(new View.OnClickListener(){
         @Override
         public void onClick(View v) {
            String value1=num1.getText().toString();
            String value2=num2.getText().toString();
            int a = Integer.parseInt(value1);
            int b = Integer.parseInt(value2);
            int sum = a+b;
            Toast.makeText(getApplicationContext(), String.valueOf(sum),
Toast.LENGTH_LONG).show();
         }
```

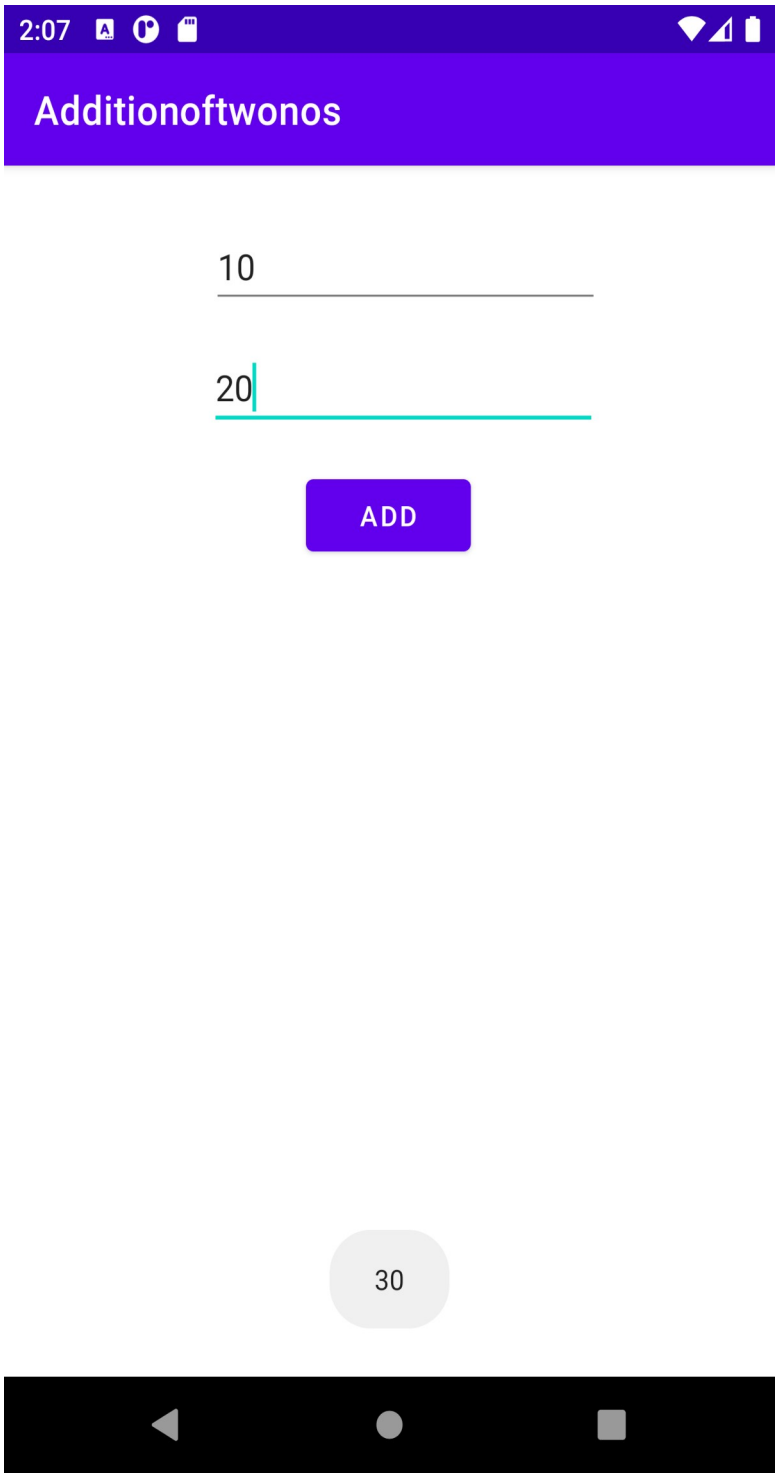
```
        });
    }
}
```

MainActivity.xml

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

    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    tools:layout_editor_absoluteY="81dp">

    <EditText
        android:id="@+id/num1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView"
        android:layout_alignParentStart="true"
        android:layout_marginStart="110dp"
        android:layout_marginTop="28dp"
        android:ems="10"
        android:hint="Enter First Number"
        android:inputType="number" />

    <Button
        android:id="@+id/sum"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/num1"
        android:layout_alignStart="@+id/num1"
        android:layout_marginStart="51dp"
        android:layout_marginTop="77dp"
        android:text="Add" />

    <EditText
        android:id="@+id/num2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/num1"
        android:layout_alignStart="@+id/num1"
        android:layout_marginStart="-1dp"
```

```
        android:layout_marginTop="15dp"
        android:ems="10"
        android:hint="Enter Second Number"
        android:inputType="number" />

</RelativeLayout>
```

Output :-



1.C. Write an android code to implement the Calculator.

Code:

MainActivity.java

```
package com.example.calculator;

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

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

   EditText e1, e2;
   TextView t1;
   int num1, num2;

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

   // a public method to get the input numbers
   public boolean getNumbers() {

      // defining the edit text 1 to e1
      e1 = (EditText) findViewById(R.id.num1);

      // defining the edit text 2 to e2
      e2 = (EditText) findViewById(R.id.num2);

      // defining the text view to t1
      t1 = (TextView) findViewById(R.id.result);

      // taking input from text box 1
      String s1 = e1.getText().toString();

      // taking input from text box 2
      String s2 = e2.getText().toString();
```

```
    // condition to check if box is not empty
    if ((s1.equals(null) && s2.equals(null))
            || (s1.equals("") && s2.equals(""))) {

        String result = "Please enter a value";
        t1.setText(result);

        return false;
    } else {
        // converting string to int.
        num1 = Integer.parseInt(s1);

        // converting string to int.
        num2 = Integer.parseInt(s2);
    }

    return true;
}

// a public method to perform addition
public void doSum(View v) {

    // get the input numbers
    if (getNumbers()) {
        int sum = num1 + num2;
        t1.setText(Integer.toString(sum));
    }
}

// a public method to perform power function
public void doPow(View v) {

    // get the input numbers
    if (getNumbers()) {
        double sum = Math.pow(num1, num2);
        t1.setText(Double.toString(sum));
    }
}

// a public method to perform subtraction
public void doSub(View v) {

    // get the input numbers
    if (getNumbers()) {
        int sum = num1 - num2;
```

```
            t1.setText(Integer.toString(sum));
        }
    }

    // a public method to perform multiplication
    public void doMul(View v) {

        // get the input numbers
        if (getNumbers()) {
            int sum = num1 * num2;
            t1.setText(Integer.toString(sum));
        }
    }

    // a public method to perform Division
    public void doDiv(View v) {

        // get the input numbers
        if (getNumbers()) {

            // displaying the text in text view assigned as t1
            double sum = num1 / (num2 * 1.0);
            t1.setText(Double.toString(sum));
        }
    }

    // a public method to perform modulus function
    public void doMod(View v) {

        // get the input numbers
        if (getNumbers()) {
            double sum = num1 % num2;
            t1.setText(Double.toString(sum));
        }
    }
}
```

MainActivity.xml

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

```
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="#8BC34A"
android:backgroundTint="@android:color/darker_gray"
tools:context=".MainActivity">

<!-- Text View to display our basic heading of "calculator"-->
<TextView
   android:layout_width="194dp"
   android:layout_height="43dp"
   android:layout_marginStart="114dp"
   android:layout_marginTop="58dp"
   android:layout_marginEnd="103dp"
   android:layout_marginBottom="502dp"
   android:scrollbarSize="30dp"
   android:text=" Calculator"
   android:textAppearance="@style/TextAppearance.AppCompat.Body1"
   android:textColor="#030E47"
   android:textSize="34sp"
   android:textStyle="bold"
   app:layout_constraintBottom_toBottomOf="parent"
   app:layout_constraintEnd_toEndOf="parent"
   app:layout_constraintStart_toStartOf="parent"
   app:layout_constraintTop_toTopOf="parent" />

<!-- Edit Text View to input the values -->
<EditText
   android:id="@+id/num1"
   android:layout_width="364dp"
   android:layout_height="28dp"
   android:layout_marginStart="72dp"
   android:layout_marginTop="70dp"
   android:layout_marginEnd="71dp"
   android:layout_marginBottom="416dp"
   android:background="@android:color/white"
   android:ems="10"
   android:inputType="number"
   app:layout_constraintBottom_toBottomOf="parent"
   app:layout_constraintEnd_toEndOf="parent"
   app:layout_constraintStart_toStartOf="parent"
   app:layout_constraintTop_toTopOf="parent" />

<!-- Edit Text View to input 2nd value-->
<EditText
```

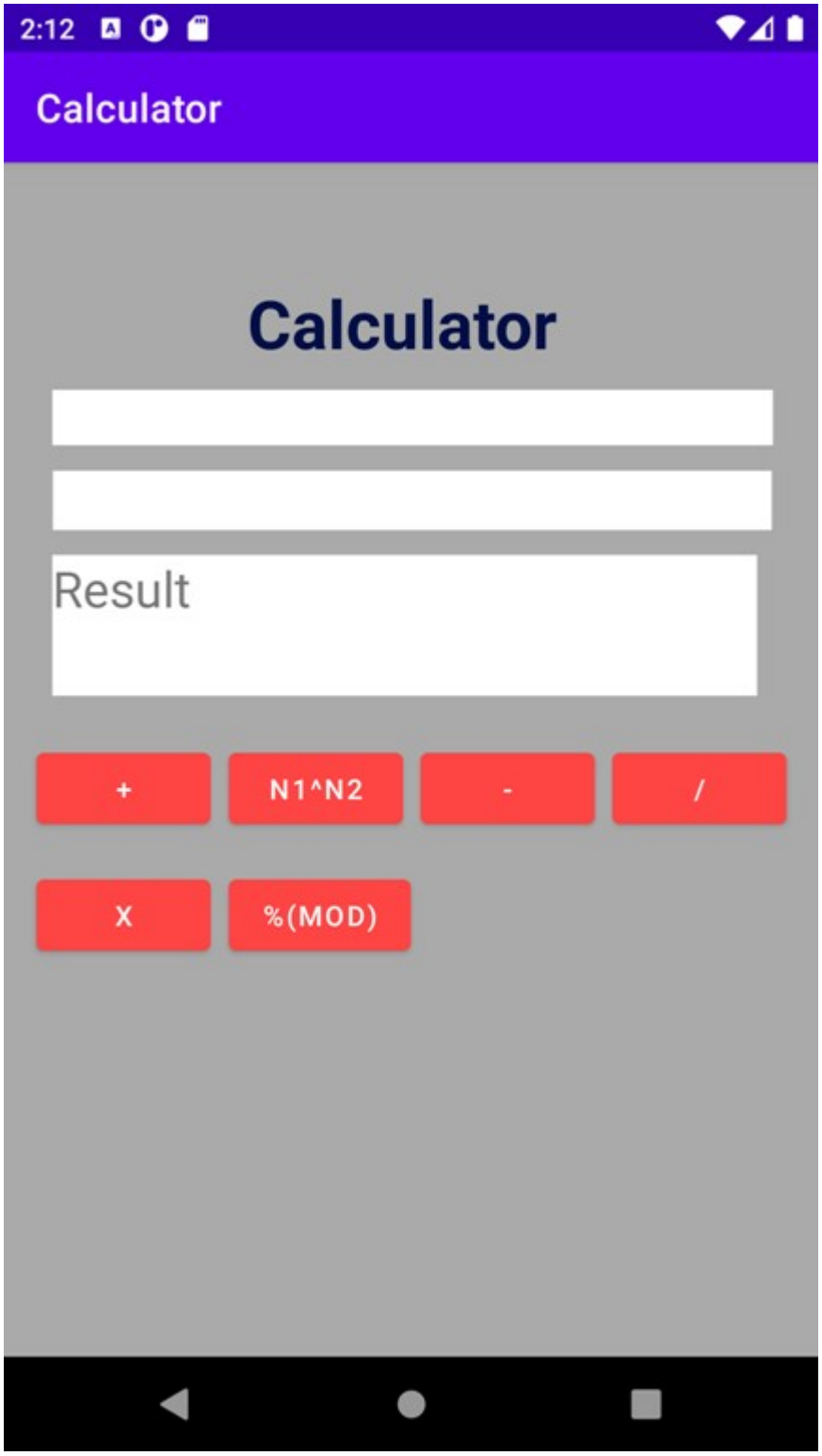
```
    android:id="@+id/num2"
    android:layout_width="363dp"
    android:layout_height="30dp"
    android:layout_marginStart="72dp"
    android:layout_marginTop="112dp"
    android:layout_marginEnd="71dp"
    android:layout_marginBottom="374dp"
    android:background="@android:color/white"
    android:ems="10"
    android:inputType="number"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<!-- Text View to display result -->
<TextView
    android:id="@+id/result"
    android:layout_width="356dp"
    android:layout_height="71dp"
    android:layout_marginStart="41dp"
    android:layout_marginTop="151dp"
    android:layout_marginEnd="48dp"
    android:layout_marginBottom="287dp"
    android:background="@android:color/white"
    android:text="Result"
    android:textColorLink="#673AB7"
    android:textSize="25sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<!-- A button to perform 'sum' operation -->
<Button
    android:id="@+id/sum"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="292dp"
    android:layout_marginEnd="307dp"
    android:layout_marginBottom="263dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doSum"
    android:text="+"
```

```
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<!-- A button to perform subtraction operation. -->
<Button
    android:id="@+id/sub"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="210dp"
    android:layout_marginTop="292dp"
    android:layout_marginEnd="113dp"
    android:layout_marginBottom="263dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doSub"
    android:text="-"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<!-- A button to perform division. -->
<Button
    android:id="@+id/div"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="307dp"
    android:layout_marginTop="292dp"
    android:layout_marginEnd="16dp"
    android:layout_marginBottom="263dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doDiv"
    android:text="/"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<!-- A button to perform multiplication. -->
<Button
    android:id="@+id/mul"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```
    android:layout_marginStart="16dp"
    android:layout_marginTop="356dp"
    android:layout_marginEnd="307dp"
    android:layout_marginBottom="199dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doMul"
    android:text="x"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<!-- A button to perform a modulus function. -->
<Button
    android:id="@+id/button"
    android:layout_width="92dp"
    android:layout_height="48dp"
    android:layout_marginStart="113dp"
    android:layout_marginTop="356dp"
    android:layout_marginEnd="206dp"
    android:layout_marginBottom="199dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doMod"
    android:text="%(mod)"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<!-- A button to perform a power function. -->
<Button
    android:id="@+id/pow"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="113dp"
    android:layout_marginTop="292dp"
    android:layout_marginEnd="210dp"
    android:layout_marginBottom="263dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doPow"
    android:text="n1^n2"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

</androidx.constraintlayout.widget.ConstraintLayout>

Output :-



02. Write an android code to make phone call using Intent.

Main Activity

```
package com.example.second_screen_demo;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
}
public void next(View view) {
Uri webpage = Uri.parse("https://www.android.com");
Intent webIntent = new Intent(Intent.ACTION_VIEW, webpage);
startActivity(webIntent);
}
public void next2(View view) {
Uri number = Uri.parse("tel:7744062398");
Intent callIntent = new Intent(Intent.ACTION_DIAL, number);
startActivity(callIntent);
```

```
}
}
```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">
<Button
android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="340dp"
android:onClick="next"
android:text="BUTTON 1"
app:layout_constraintTop_toTopOf="parent"
tools:ignore="MissingConstraints"
tools:layout_editor_absoluteX="151dp" />
<Button
android:id="@+id/button2"
```

android:layout_width="107dp"

android:layout_height="41dp"

android:layout_marginTop="409dp"

android:text="Button 2"

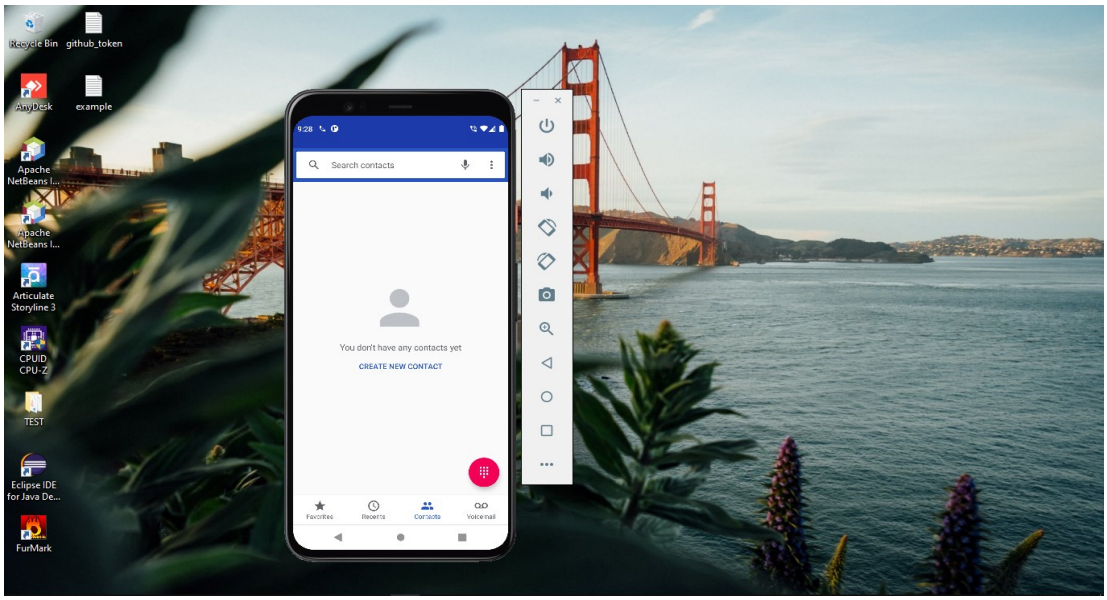
android:onClick="next2"

app:layout_constraintTop_toTopOf="parent"

tools:layout_editor_absoluteX="152dp" />

</androidx.constraintlayout.widget.ConstraintLayout>

Output :-




Recycle Bin
github_token
AnyDesk
example
Apache NetBeans I...
Apache NetBeans I...
Articulate Storyline 3
CPUID CPU-Z
TEST
Eclipse IDE for Java De...
FurMark
9:28
(932) 583-1250
00:13
Mute
Keypad
Speaker
Add call
Hold

Xcal

03. Create a fragment that has its own UI and enable your activities to communicate with fragments.

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:app="http://schemas.android.com/apk/res-auto"

xmlns:tools="http://schemas.android.com/tools"

android:layout_width="match_parent"

android:layout_height="match_parent"

tools:context=".MainActivity">

<FrameLayout

android:id="@+id/frameLayout"

android:layout_width="match_parent"

android:layout_height="600dp"/>

<Button

android:id="@+id/fragment1btn"

android:layout_width="150dp"

android:layout_height="60dp"

android:layout_alignParentBottom="true"

android:layout_marginStart="50dp"

android:layout_marginBottom="50dp"

android:backgroundTint="@color/black"

android:text="Fragment 1" />

<Button
```

```
android:id="@+id/fragment2btn"
android:layout_width="150dp"
android:layout_height="60dp"
android:layout_alignParentRight="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="50dp"
android:layout_marginBottom="50dp"
android:backgroundTint="@color/black"
android:text="Fragment 2" />
</RelativeLayout>
```

fragment_fragment1.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="@color/fragment1color"
tools:context=".fragment1">
<!-- TODO: Update blank fragment layout -->
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textStyle="bold"
android:text="Fragment 1"
```

```
android:textSize="30dp"
android:layout_centerHorizontal="true"
android:layout_marginTop="50dp"
android:textColor="@color/black"/>
<TextView
android:id="@+id/dataFrom2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text=""
android:layout_centerHorizontal="true"
android:layout_marginTop="150dp"
android:textColor="@color/black"
android:textSize="26dp"/>
<EditText
android:id="@+id/fragment1Data"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginHorizontal="26dp"
android:layout_marginTop="300dp"
android:ems="10"
android:hint="Data to Fragment 2"
android:inputType="textPersonName" />
<Button
android:id="@+id/sendData1btn"
```

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@id/fragment1Data"
android:layout_centerHorizontal="true"
android:layout_marginTop="20dp"
android:backgroundTint="@color/black"
android:text="Send Data to Fragment 2" />
</RelativeLayout>
```

fragment_fragment2.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:background="@color/fragment2color"
tools:context=".fragment2">
<!-- TODO: Update blank fragment layout -->
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Fragment 2"
android:textSize="30dp"
android:layout_centerHorizontal="true"
```

```
android:layout_marginTop="50dp"
android:textStyle="bold"
android:textColor="@color/black"/>
<TextView
android:id="@+id/dataFrom1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text=""
android:layout_centerHorizontal="true"
android:layout_marginTop="150dp"
android:textColor="@color/black"
android:textSize="26dp"/>
<EditText
android:id="@+id/fragment2Data"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_centerHorizontal="true"
android:layout_marginTop="300dp"
android:layout_marginHorizontal="26dp"
android:ems="10"
android:inputType="textPersonName"
android:hint="Data to Fragment 1" />
<Button
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
android:id="@+id/sendData2btn"
android:text="Send Data to Fragment 1"
android:backgroundTint="@color/black"
android:layout_centerHorizontal="true"
android:layout_below="@id/fragment2Data"
android:layout_marginTop="20dp"/>
</RelativeLayout>
```

MainActivity.java

```
package com.example.fragment_demo;
import androidx.appcompat.app.AppCompatActivity;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentManager;
import androidx.fragment.app.FragmentTransaction;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
public class MainActivity extends AppCompatActivity {
Button firstFragmentBtn, secondFragmentBtn;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
```

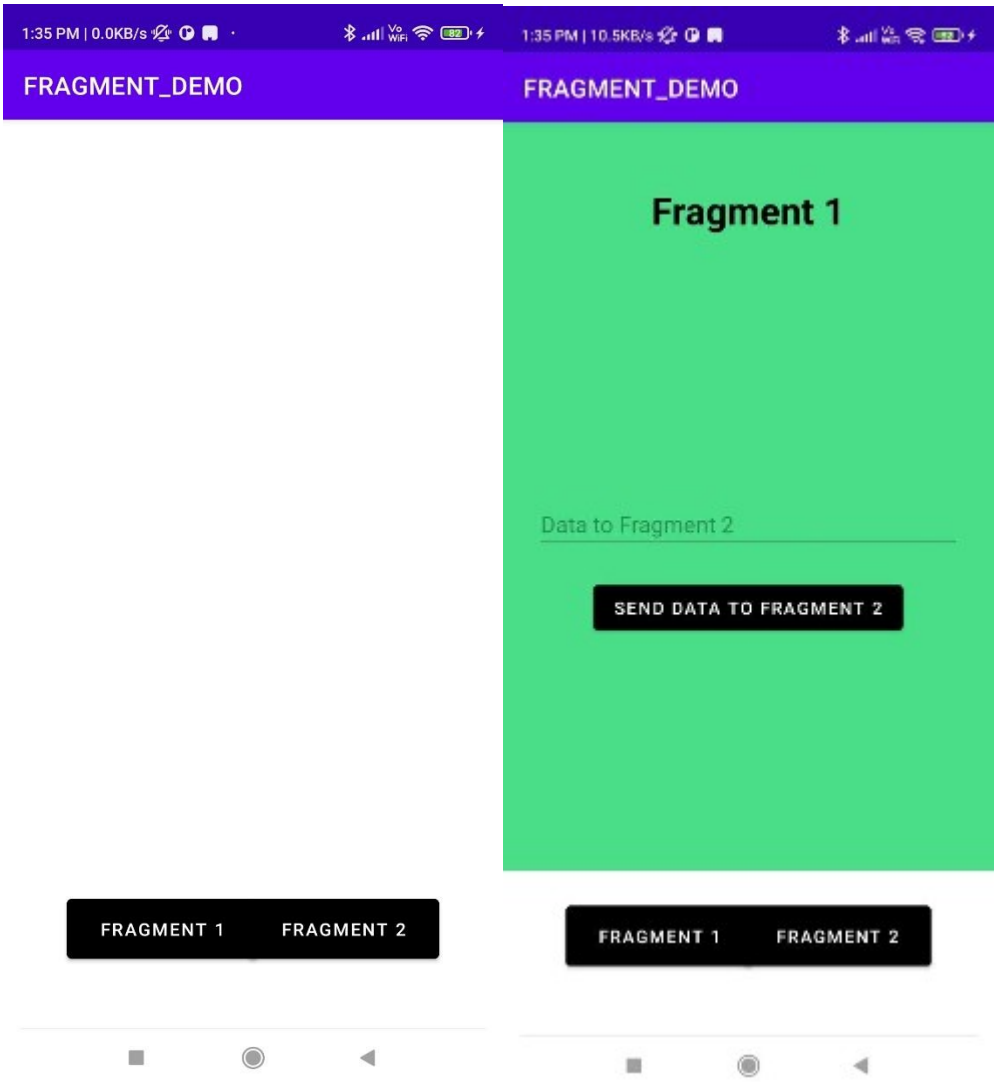
```
firstFragmentBtn = findViewById(R.id.fragment1btn);
secondFragmentBtn = findViewById(R.id.fragment2btn);
firstFragmentBtn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
replaceFragment(new fragment1());
}
});
secondFragmentBtn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
replaceFragment(new fragment2());
}
});
}
private void replaceFragment(Fragment fragment) {
FragmentManager fragmentManager = getSupportFragmentManager();
FragmentTransaction fragmentTransaction =
fragmentManager.beginTransaction();
fragmentTransaction.replace(R.id.frameLayout,fragment);
fragmentTransaction.commit();
}
}
```

fragment1.java

```
package com.example.fragment_demo;
import android.app.Activity;
import android.app.FragmentManager;
import android.os.Bundle;
import androidx.annotation.NonNull;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentResultListener;
import android.util.Log;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class fragment1 extends Fragment {
View view;
@Override
public View onCreateView(LayoutInflater inflater, ViewGroup container,
Bundle savedInstanceState) {
// Inflate the layout for this fragment
view = inflater.inflate(R.layout.fragment_fragment1, container,
false);
```

```
Button button = view.findViewById(R.id.sendData1btn);
getParentFragmentManager().setFragmentResultListener("dataFrom2",
this, new FragmentResultListener() {
@Override
public void onFragmentResult(@NonNull String requestKey, @NonNull
Bundle result) {
String data = result.getString("df2");
TextView textView = view.findViewById(R.id.dataFrom2);
textView.setText(data);
}
});
button.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
EditText editText = view.findViewById(R.id.fragment1Data);
Bundle result = new Bundle();
result.putString("df1",editText.getText().toString());
getParentFragmentManager().setFragmentResult("dataFrom1",result);
editText.setText("");
}
});
return view;
}
}
```

Output :-


1:35 PM | 0.0KB/s
FRAGMENT_DEMO
FRAGMENT 1
FRAGMENT 2
1:35 PM | 10.5KB/s
FRAGMENT_DEMO
Fragment 1
Data to Fragment 2
SEND DATA TO FRAGMENT 2
FRAGMENT 1
FRAGMENT 2

04.Write an android application using SQLite to create table and perform CRUD operations (Example. COURSE table (ID, Name, Duration, and Description), perform ADD, UPDATE, DELETE and READ operations)

Main Activity :-

```
package com.example.crud_operations_demo;

import androidx.appcompat.app.AppCompatActivity;

import androidx.appcompat.app.AlertDialog;

import androidx.appcompat.app.AppCompatActivity;

import android.database.Cursor;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

   EditText name, contact, dob;

   Button insert, update, delete, view;

        DBHelper DB;

@Override

protected void onCreate(Bundle savedInstanceState) {

      super.onCreate(savedInstanceState);

      setContentView(R.layout.activity_main);

      name = findViewById(R.id.name);

      contact = findViewById(R.id.contact);
```

```
        dob = findViewById(R.id.dob);
        insert = findViewById(R.id.btnInsert);
        update = findViewById(R.id.btnUpdate);
        delete = findViewById(R.id.btnDelete);
        view = findViewById(R.id.btnView);
        DB = new DBHelper(this);
        insert.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View view) {
        String nameTXT = name.getText().toString();
        String contactTXT = contact.getText().toString();
        String dobTXT = dob.getText().toString();
       Boolean checkinsertdata = DB.insertuserdata(nameTXT, contactTXT, dobTXT);
        if(checkinsertdata==true)
        Toast.makeText(MainActivity.this, "New Entry Inserted",
Toast.LENGTH_SHORT).show();
        else
        Toast.makeText(MainActivity.this, "New Entry Not Inserted",
Toast.LENGTH_SHORT).show();
        }       });
        update.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View view) {
        String nameTXT = name.getText().toString();
        String contactTXT = contact.getText().toString();
```

```
        String dobTXT = dob.getText().toString();

        Boolean checkupdatedata = DB.updateuserdata(nameTXT, contactTXT,
dobTXT);

        if(checkupdatedata==true)

        Toast.makeText(MainActivity.this, "Entry Updated",
Toast.LENGTH_SHORT).show();

        else

        Toast.makeText(MainActivity.this, "New Entry Not Updated",
Toast.LENGTH_SHORT).show();

        }       });

        delete.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

        String nameTXT = name.getText().toString();

        Boolean checkudeletedata = DB.deletedata(nameTXT);

        if(checkudeletedata==true)

        Toast.makeText(MainActivity.this, "Entry Deleted",
Toast.LENGTH_SHORT).show();

        else

        Toast.makeText(MainActivity.this, "Entry Not Deleted",
Toast.LENGTH_SHORT).show();

        }       });

        view.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

        Cursor res = DB.getdata();

        if(res.getCount()==0){
```

```
        Toast.makeText(MainActivity.this, "No Entry Exists",
Toast.LENGTH_SHORT).show();

        return;

        }

        StringBuffer buffer = new StringBuffer();

        while(res.moveToNext()){

        buffer.append("Name :"+res.getString(0)+"\n");

        buffer.append("Contact :"+res.getString(1)+"\n");

        buffer.append("Date of Birth :"+res.getString(2)+"\n\n");

        }

        AlertDialog.Builder builder = new AlertDialog.Builder(MainActivity.this);

        builder.setCancelable(true);

        builder.setTitle("User Entries");

        builder.setMessage(buffer.toString());

        builder.show();

        }       });

        }}
```

DBHelper :-

```
package com.example.crud_operations_demo;

import android.content.ContentValues;

import android.content.Context;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;
```

```
import androidx.annotation.Nullable;

public class DBHelper extends SQLiteOpenHelper {

    public void onCreate(SQLiteDatabase DB) {

        DB.execSQL("create Table Userdetails(name Text primary key,
contact TEXT , dob Text)");

    }

    public DBHelper(Context context) {

        super(context, "Userdata.db", null, 1);

    }

  @Override

    public void onUpgrade(SQLiteDatabase DB, int i, int i1) {

        DB.execSQL("drop Table if exists Userdetails");

    }

    public Boolean insertuserdata(String name, String contact, String dob)

    {

        SQLiteDatabase DB = this.getWritableDatabase();

        ContentValues contentValues = new ContentValues();

        contentValues.put("name", name);

        contentValues.put("contact", contact);

        contentValues.put("dob", dob);

        long result=DB.insert("Userdetails", null, contentValues);

        if(result==-1){

            return false;
```

```
        }else{
            return true;
        }
    }
    public Boolean updateuserdata(String name, String contact, String dob)
{
        SQLiteDatabase DB = this.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put("contact", contact);
        contentValues.put("dob", dob);
        Cursor cursor = DB.rawQuery("Select * from Userdetails where
name = ?", new String[]{name});
        if (cursor.getCount() > 0) {
            long result = DB.update("Userdetails", contentValues, "name=?",
new String[]{name});
            if (result == -1) {
                return false;
            } else {
                return true;
            }
        } else {
            return false;
        }}
    public Boolean deletedata (String name)
```

```
    {
        SQLiteDatabase DB = this.getWritableDatabase();
        Cursor cursor = DB.rawQuery("Select * from Userdetails where
name = ?", new String[]{name});
        if (cursor.getCount() > 0) {
            long result = DB.delete("Userdetails", "name=?", new String[]
{name});
            if (result == -1) {
                return false;
            } else {
                return true;
            }
        } else {
            return false;
        }
    }


    public Cursor getdata ()
    {
        SQLiteDatabase DB = this.getWritableDatabase();
        Cursor cursor = DB.rawQuery("Select * from Userdetails", null);
        return cursor;
    }
```

```
}
```

Activity_main.xml :-

```
<?xml version="1.0" encoding="utf-8"?>

<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"

   xmlns:app="http://schemas.android.com/apk/res-auto"

   xmlns:tools="http://schemas.android.com/tools"

   android:layout_width="match_parent"

   android:layout_height="match_parent"

   android:padding="10dp"

   tools:context=".MainActivity">

   <TextView

      android:id="@+id/texttitle"

      android:layout_width="match_parent"

      android:layout_height="wrap_content"

      android:text="Please enter the details below"

      android:textSize="24dp"

      android:layout_marginTop="20dp"

      />

   <EditText

      android:id="@+id/name"

      android:layout_width="match_parent"

      android:layout_height="wrap_content"
```

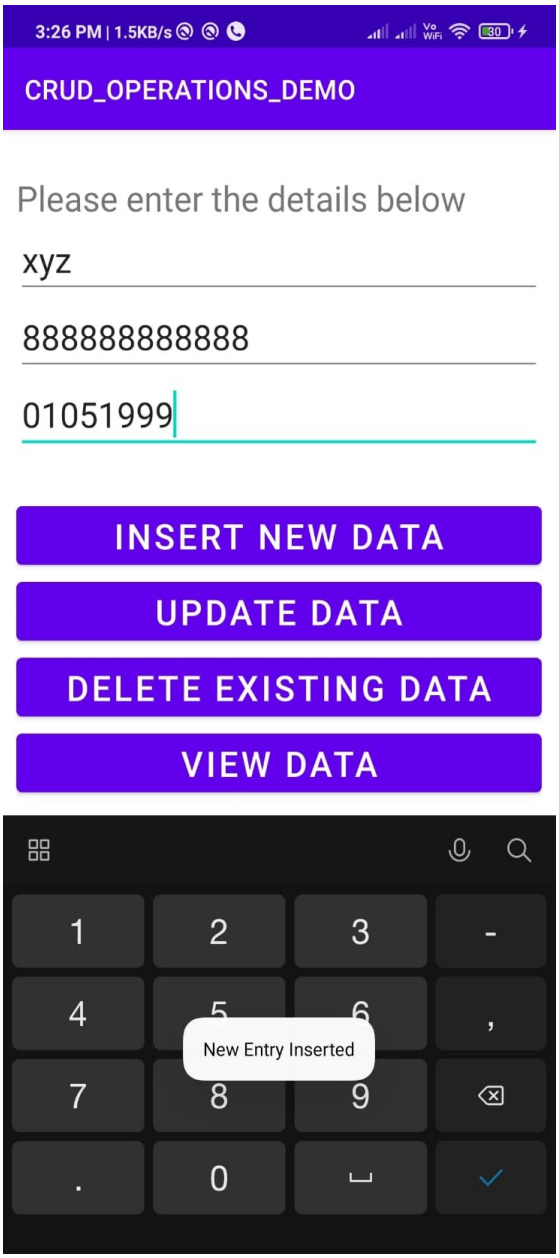
```
    android:hint="Name"
    android:textSize="24dp"
    android:layout_below="@+id/texttitle"
    android:inputType="textPersonName"/>
<EditText
    android:id="@+id/contact"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Contact"
    android:textSize="24dp"
    android:layout_below="@+id/name"
    android:inputType="number"/>
<EditText
    android:id="@+id/dob"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Date of Birth"
    android:textSize="24dp"
    android:layout_below="@+id/contact"
    android:inputType="number"/>

<Button
```

```
    android:id="@+id/btnInsert"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/dob"
    android:layout_marginTop="30dp"
    android:text="Insert New Data"
    android:textSize="24dp" />

<Button
    android:id="@+id/btnUpdate"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/btnInsert"
    android:text="Update Data"
    android:textSize="24dp" />
<Button
    android:id="@+id/btnDelete"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="24dp"
    android:text="Delete Existing Data"
    android:layout_below="@id/btnUpdate"/>
```

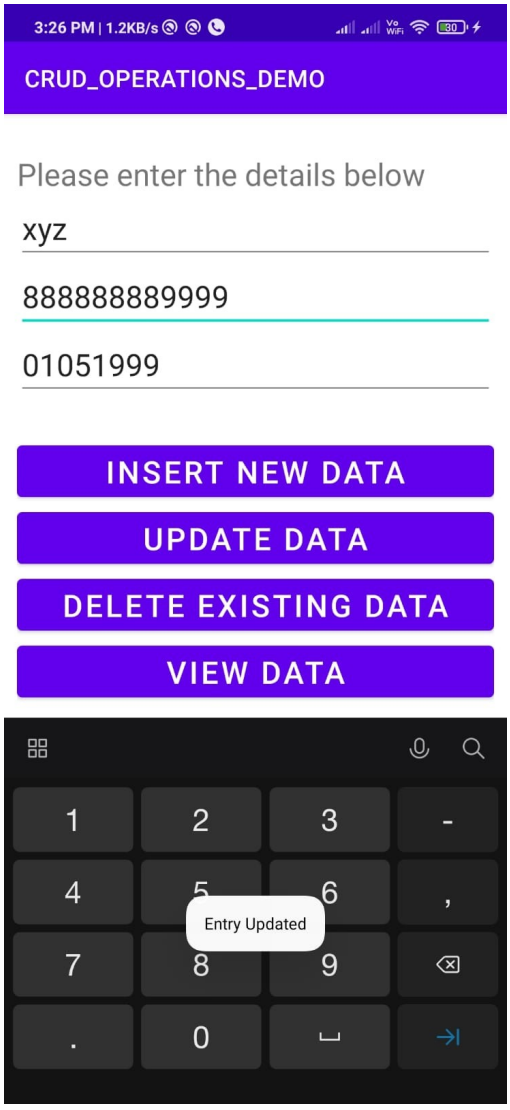
```
    <Button
        android:id="@+id/btnView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="View Data"
        android:layout_below="@id/btnDelete"/>
</RelativeLayout>
```

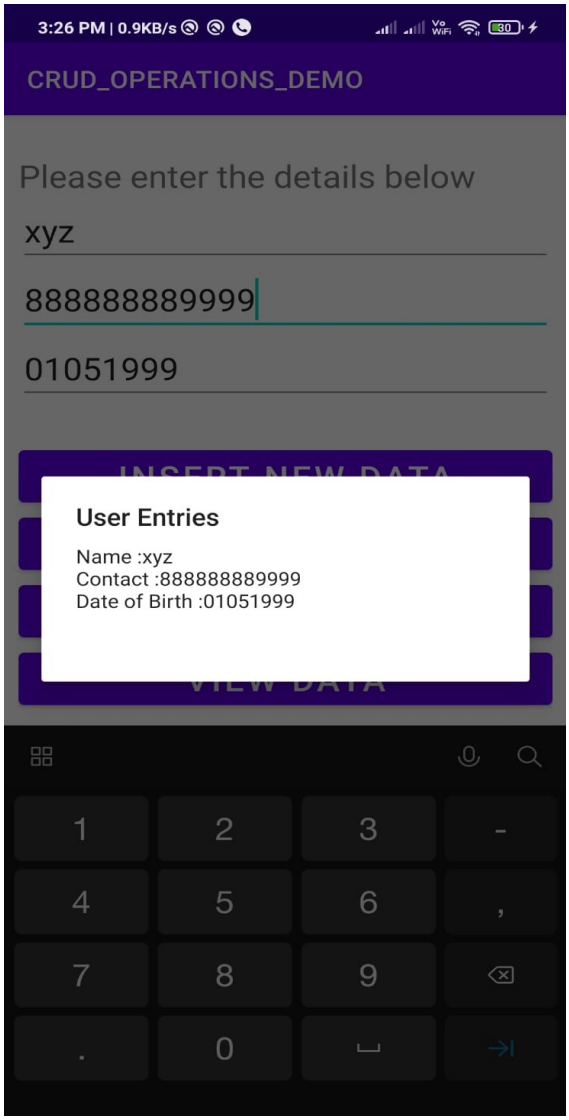
Output :-

Record Insert :-

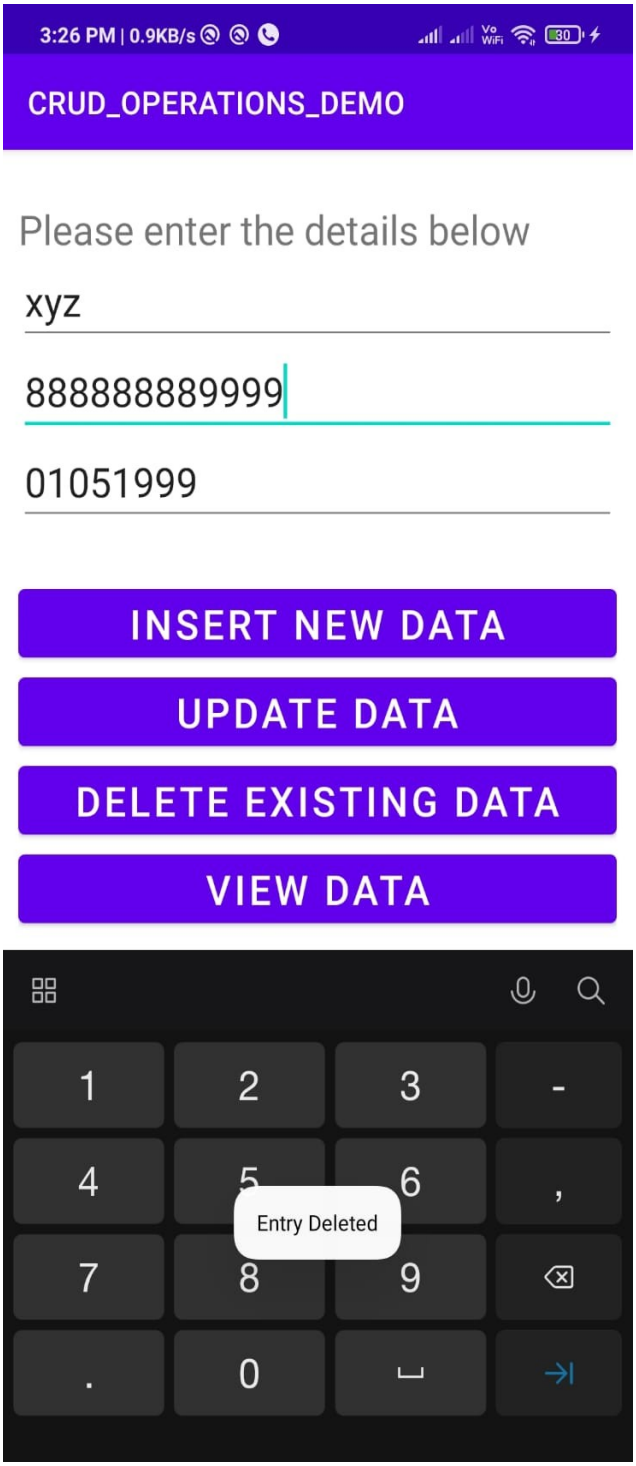


Update and View :-





Delete :-


3:26 PM | 0.9KB/s
CRUD_OPERATIONS_DEMO
Please enter the details below
xyz
888888889999
01051999
INSERT NEW DATA
UPDATE DATA
DELETE EXISTING DATA
VIEW DATA
Entry Deleted

05.Demonstrate Options Menu, Context Menu and Popup Menu in android .

Main Activity :-

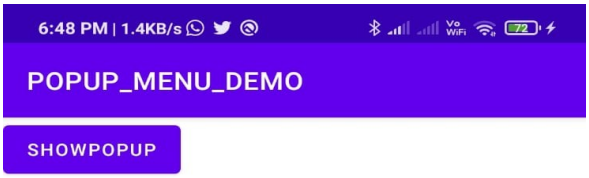
```
package com.example.popup_menu_demo;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.PopupMenu;
public class MainActivity extends AppCompatActivity {
   Button button;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);

      button=(Button) findViewById(R.id.button);
      button.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View view) {

            PopupMenu popupMenu=new PopupMenu(MainActivity.this,
button);

popupMenu.getMenuInflater().inflate(R.menu.popupmenu,popupMenu.getM
enu());
```

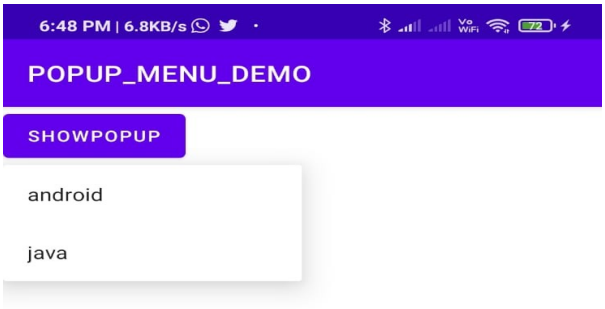
```
            popupMenu.show();
        }
    });
  }
}
```

Activity_main.xml :-

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity">
   <Button
      android:id="@+id/button"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="showpopup"
      tools:layout_editor_absoluteX="140dp"
      tools:layout_editor_absoluteY="298dp" />

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

Output :-


6:48 PM | 1.4KB/s
POPUP_MENU_DEMO
SHOWPOPUP


6:48 PM | 6.8KB/s
POPUP_MENU_DEMO
SHOWPOPUP
android
java

06.Demonstrate Array Adapter using List View to display list of fruits.

Main Activity :-

```
package com.example.list_view_demo;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.ListView;

public class MainActivity extends AppCompatActivity {
   String[] mobileArray = {"Apple","Banana","Pineapple","Blueberry"};

   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      ArrayAdapter adapter = new ArrayAdapter<String>(this,
            R.layout.activity_listview, mobileArray);
      ListView listView = (ListView) findViewById(R.id.mobile_list);
      listView.setAdapter(adapter);
   }
}
```

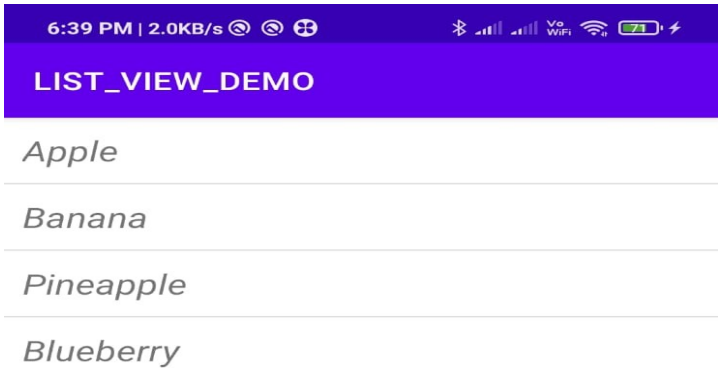
activity_listview.xml:-

```
<?xml version="1.0" encoding="utf-8"?>

<TextView xmlns:android="http://schemas.android.com/apk/res/android"
android:id="@+id/label"

   android:layout_width="fill_parent"

   android:layout_height="fill_parent"

   android:padding="10dip"

   android:textSize="21dip"

   android:textStyle="italic" >

</TextView>
```

activity_main.xml :-

```
<?xml version="1.0" encoding="utf-8"?>

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"

   android:layout_height="match_parent"

   android:orientation="vertical"

   tools:context=".ListActivity" >

   <ListView

      android:id="@+id/mobile_list"

      android:layout_width="match_parent"

      android:layout_height="wrap_content" >

   </ListView>

</LinearLayout>
```

Output :-


6:39 PM | 2.0KB/s
LIST_VIEW_DEMO
Apple
Banana
Pineapple
Blueberry

07.Write an android code to turn ON/OFF Bluetooth.

Main Activity :-

```
package com.example.bluetooth_demo;
import android.os.Bundle;
import android.widget.ToggleButton;
import android.bluetooth.BluetoothAdapter;
import android.content.Context;
import android.net.wifi.WifiManager;
import android.os.Bundle;
import android.widget.CompoundButton;
import android.widget.TextView;
import android.widget.ToggleButton;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
  ToggleButton toggleButton;
   TextView textView;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      // Getting toggle button and textView from activity_main
      toggleButton = (ToggleButton) findViewById(R.id.toggleButton);
      textView = (TextView) findViewById(R.id.textView);
```

```
    // Put listener on toggle button
    toggleButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
        @Override
        public void onCheckedChanged(CompoundButton compoundButton,
boolean checked) {
            if (checked) {
                textView.setText("Bluetooth is ON");
                BluetoothAdapter adapter =
BluetoothAdapter.getDefaultAdapter();
                adapter.enable();
            } else {
                textView.setText("Bluetooth is OFF");
                BluetoothAdapter adapter =
BluetoothAdapter.getDefaultAdapter();
                adapter.disable();
            }
        }
    });
    // For initial setting
    if (toggleButton.isChecked()) {
        textView.setText("Bluetooth is ON");
        BluetoothAdapter adapter = BluetoothAdapter.getDefaultAdapter();
        adapter.enable();
    } else {
```

```
            textView.setText("Bluetooth is OFF");
            BluetoothAdapter adapter = BluetoothAdapter.getDefaultAdapter();
            adapter.disable();
        }
    }
}
```

activity_main.xml :-

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_margin="16dp"
    android:gravity="center"
    android:orientation="vertical">

    <ToggleButton
        android:id="@+id/toggleButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:checked="false"
        />
    <TextView
        android:id="@+id/textView"
        android:layout_width="229dp"
```

```
    android:layout_height="108dp"
    android:layout_marginTop="16dp" />

</LinearLayout>
```

Output :-