Problem Statement 1- Develop an Android Application to display some text on the screen

Objective- To print some Text on the screen.

Activity_main.xml file

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayoutxmlns: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"
android:gravity="center">


<TextView
android:layout_height="wrap_content"
android:layout_width="wrap_content"
android:text="Hi! How are you?"/>


</LinearLayout>
```

MainActivity.java file

```java
package com.example.my_textapplication;


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);
    }
}
```

AndroidManifest.xml file

```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">

<application
android:allowBackup="true"
android:dataExtractionRules="@xml/data_extraction_rules"
android:fullBackupContent="@xml/backup_rules"
android:icon="@mipmap/ic_launcher"
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
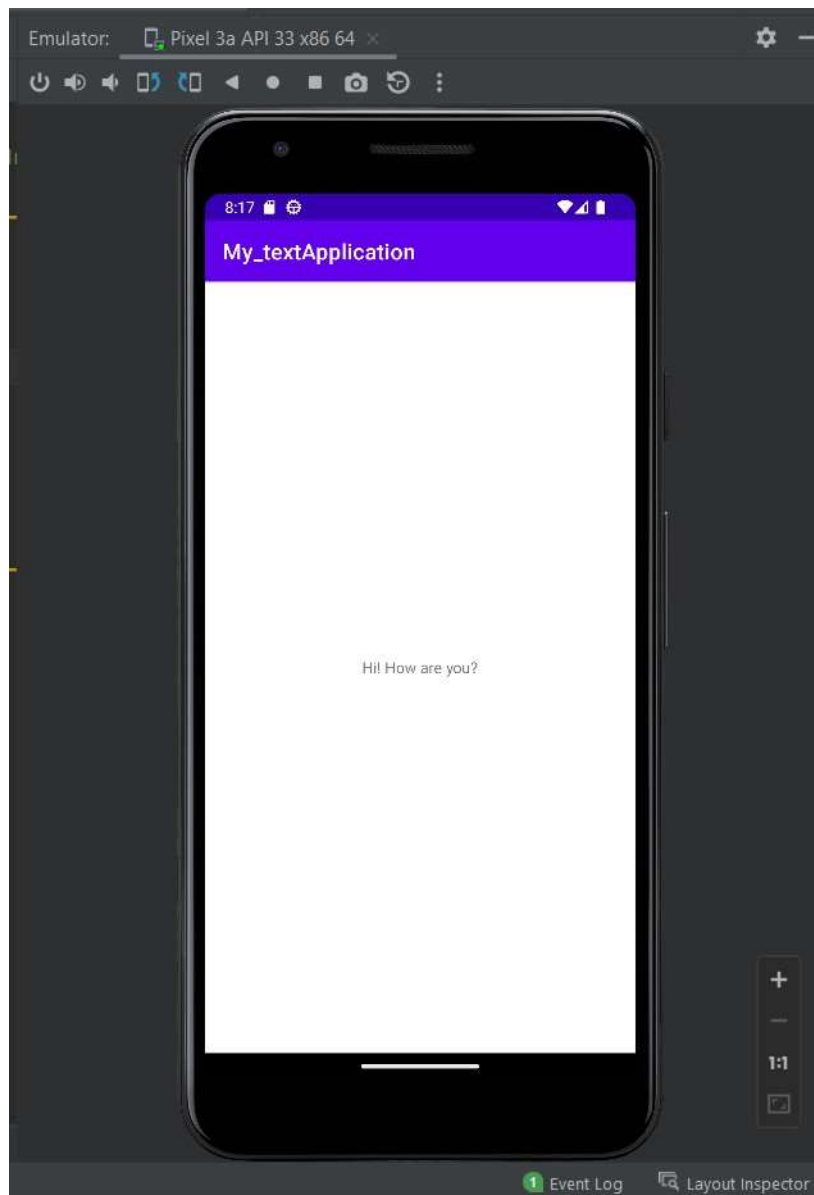**Subject- Mobile Application Development**   **Subcode-PBC 502**

```xml
android:label="@string/app_name"
android:roundIcon="@mipmap/ic_launcher_round"
android:supportsRtl="true"
android:theme="@style/Theme.My_textApplication"
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>

<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>

</manifest>
```

OUTPUT

Problem Statement 2- Develop an Android Application to change the Background Color on button click

Objective- To change the Button color.

Activity_main.xml file

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayoutxmlns: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"
android:gravity="center">

<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Hello!!!!"
android:textSize="50dp" />

<Button
android:id="@+id/b1"
android:layout_width="200dp"
android:layout_height="60dp"
android:text="Button1" />

</LinearLayout>
```

MainActivity.java file

```java
package com.example.my_colorapplication1;

import androidx.appcompat.app.AppCompatActivity;
import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
public class MainActivity extends AppCompatActivity{
    @Override
    protected void onCreate(Bundle savedInstanceState){
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
        Button btn;
btn = findViewById(R.id.b1);
btn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v){
```
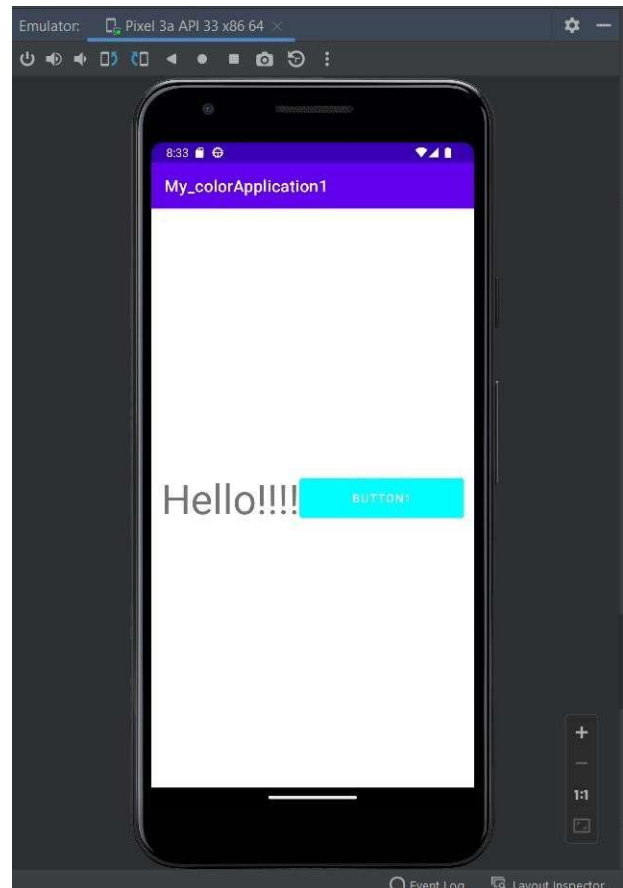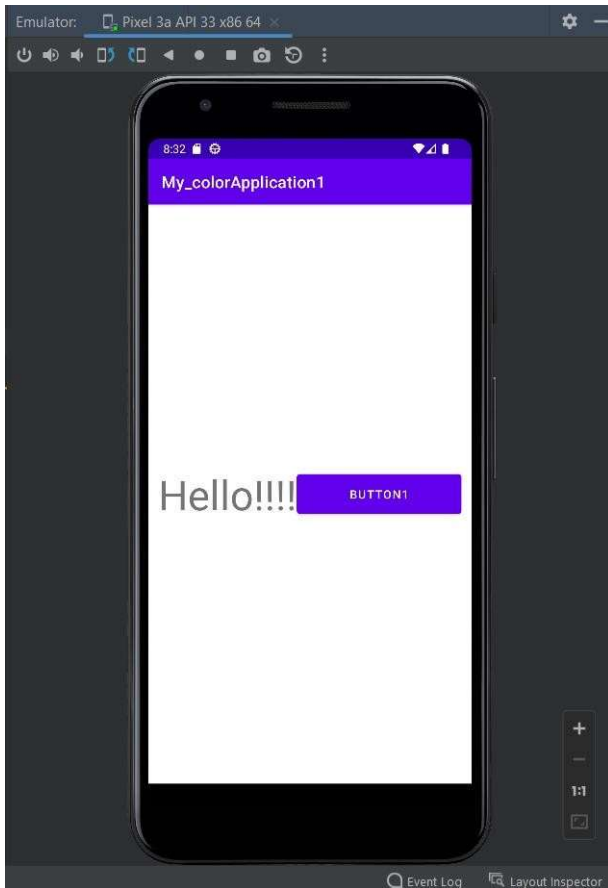
4

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```java
btn.setBackgroundColor(Color.CYAN);
        }
    });
  }
}
```

AndroidManifest.xml file

```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">

<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.My_colorApplication1"
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>

<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>

</manifest>
```

OUTPUT

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

Problem Statement 3-Develop an Android Application to change the color of written text on button click

Objective- To change background color of a text box on button click

Activity_main.xml file

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayoutxmlns: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"
android:id="@+id/L1"
android:gravity="center">

<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Hello World!" />

<Button
android:text="Button1"
android:id="@+id/b1"
android:layout_height="60dp"
android:layout_width="200dp" />

</LinearLayout>
```

MainActivity.java

```java
package com.example.my_colorapplication2;

import androidx.appcompat.app.AppCompatActivity;
import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.LinearLayout;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
setContentView(R.layout.activity_main);
        Button btn;
LinearLayout l;
```
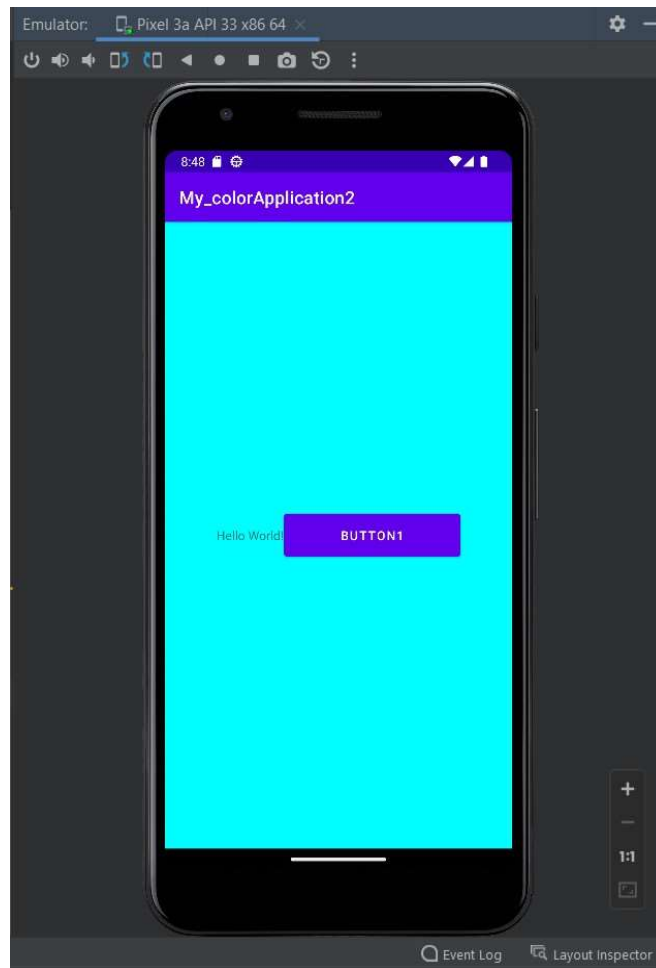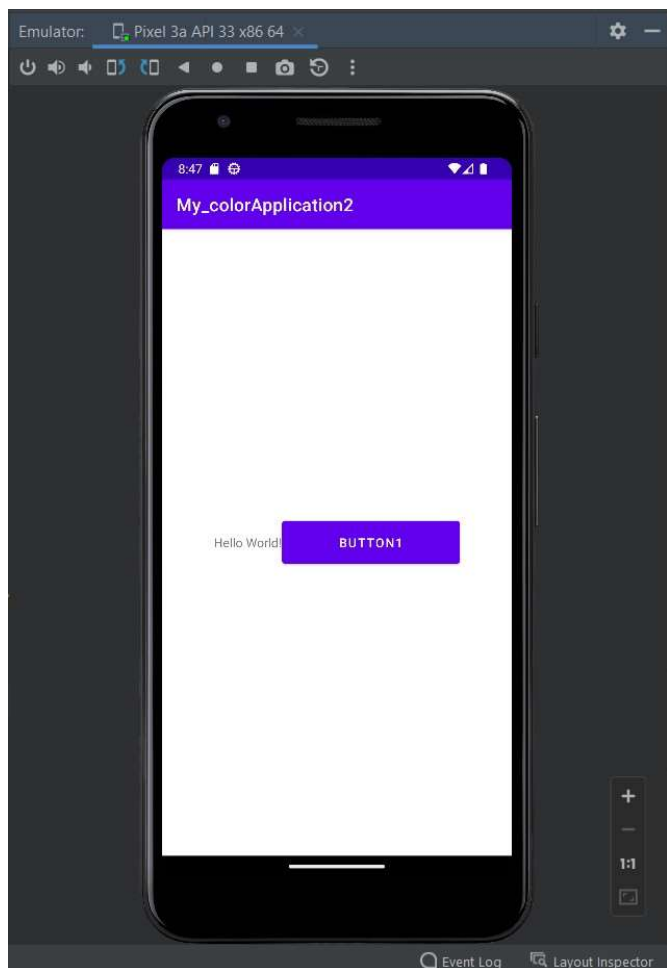
Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```java
btn = findViewById(R.id.b1);
    l=findViewById(R.id.L1);
btn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v){
l.setBackgroundColor(Color.CYAN);
        }
    });
    }
}
```

AndroidManifest.xml file

```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">


<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.My_colorApplication2"
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>

<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>

</manifest>
```

OUTPUT

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

Problem Statement 4-Develop an Android Application to change the color of another button on button click

Objective- To change background color of another button on button click.

Activity_main.xml file

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayoutxmlns: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"
android:gravity="center">

<Button
android:text="Button1"
android:id="@+id/b1"
android:layout_height="60dp"
android:layout_width="200dp" />

<Button
android:text="Button2"
android:id="@+id/b2"
android:layout_height="60dp"
android:layout_width="200dp" />

</LinearLayout>
```

MainActivity.java

```java
package com.example.my_colorapplication3;

import androidx.appcompat.app.AppCompatActivity;
import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);

    Button btn1,btn2;
    btn1 = findViewById(R.id.b1);
```

10

```java
    btn2=findViewById(R.id.b2);
    btn1.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v){
        btn2.setBackgroundColor(Color.CYAN);
      }
    });
  }
}
```

AndroidManifest.xml file

```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">

<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.My_colorApplication3"
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>

<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>

</manifest>
```
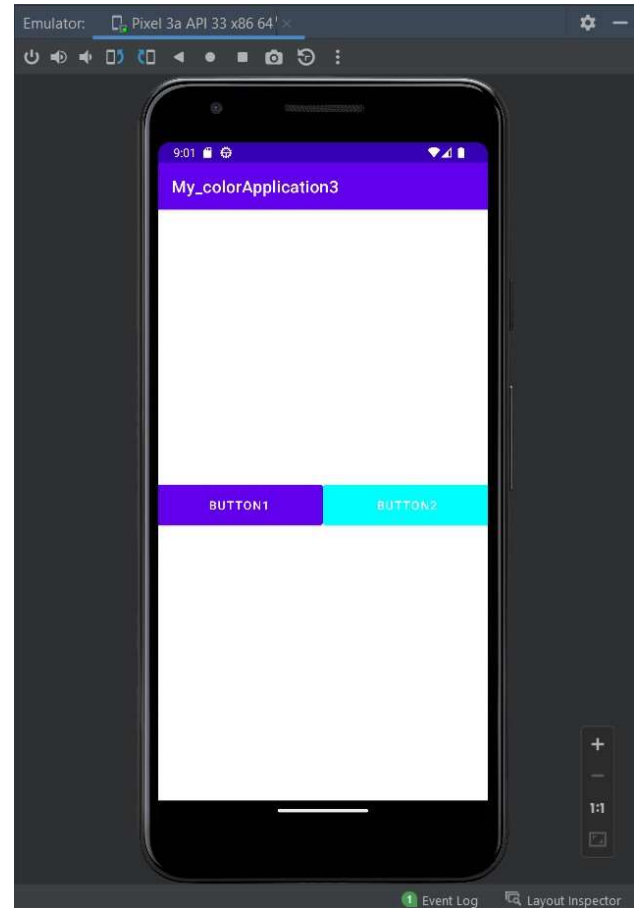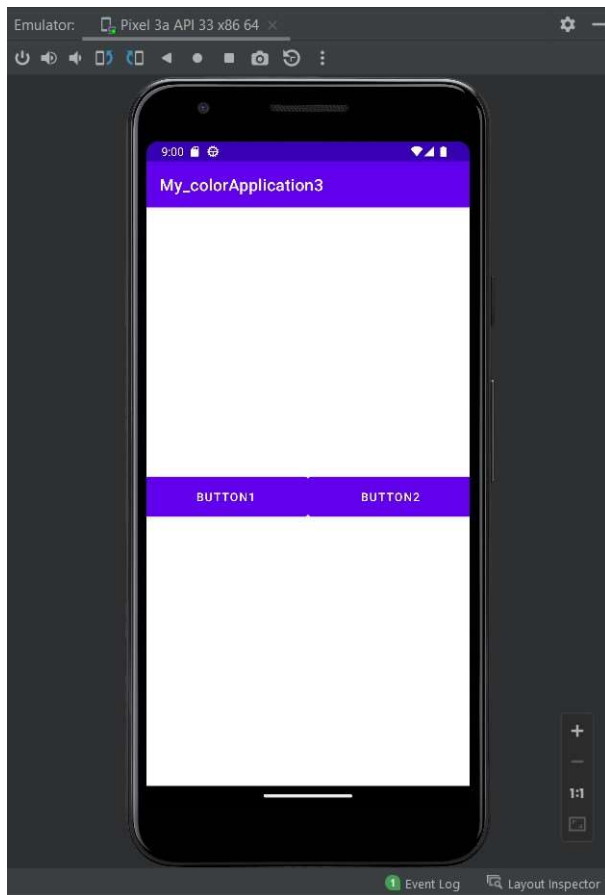
11

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

OUTPUT

12

Problem Statement 5-Develop an Android Application to depict the Activity Life Cycle

Objective- To Learn about Activity Life Cycle.

Activity_main.xml file

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayoutxmlns: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"
Android:gravity="center">

<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Hello World!"
    />

</LinearLayout>
```

MainActivity.java

```java
package com.example.myactivitylifecycle;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;

public class MainActivity extends AppCompatActivity {
public static final String status=MainActivity.class.getSimpleName();
   @Override
   protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
Log.i(status,"in method on create");
   }

   @Override
   protected void onStart() {
super.onStart();
Log.i(status,"in method on start");
   }

   @Override
   protected void onRestart() {
```

```
super.onRestart();
Log.i(status,"in method on Restart");
   }

   @Override
   protected void onResume() {
super.onResume();
Log.i(status,"in method on Resume");
   }

   @Override
   protected void onStop() {
super.onStop();
Log.i(status,"in method on Stop");
   }

   @Override
   protected void onDestroy() {
super.onDestroy();
Log.i(status,"in method on Destroy");
   }

   @Override
   protected void onPause() {
super.onPause();
Log.i(status,"in method on Pause");
   }
}
```

AndroidManifest.xml file

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

<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.MyActivityLifeCycle"
tools:targetApi="31">
<activity
android:name=".MainActivity"
android:exported="true">
```
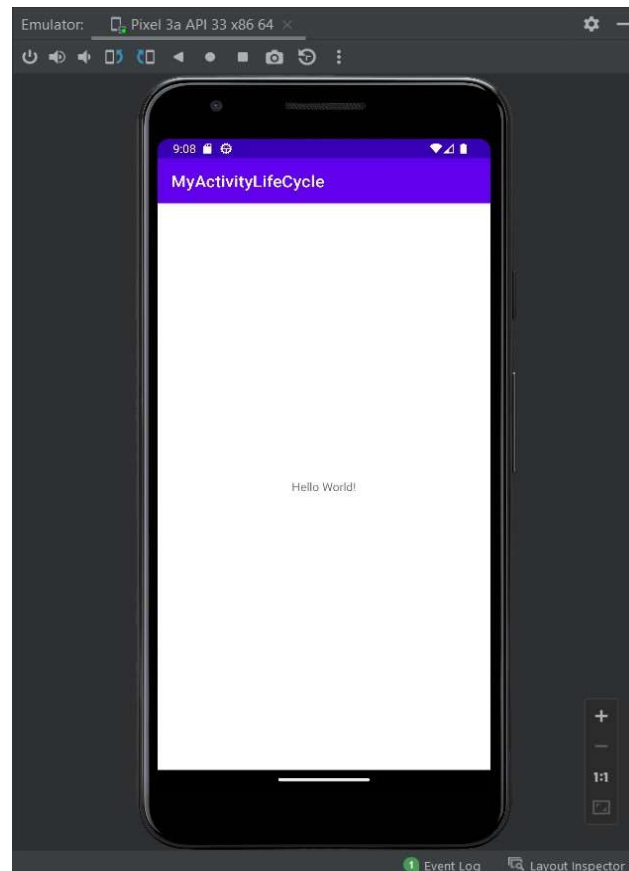
```
<intent-filter>
<action android:name="android.intent.action.MAIN" />

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

<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>

</manifest>
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

OUTPUT

Problem Statement 6- Develop an Android Application to take the input of two numbers and display their sum

Objective- two numbers and print the result for the same.

Activity_main.xml file

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayoutxmlns: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="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"
android:padding="20dp"
    />

<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/et1"
android:layout_margin="80dp"
android:inputType="number"
android:textAlignment="center"/>

<EditText
android:id="@+id/et2"
android:layout_width="316dp"
android:layout_height="wrap_content"
android:layout_below="@id/et1"
android:layout_marginStart="80dp"
android:layout_marginTop="30dp"
android:layout_marginEnd="80dp"
android:layout_marginBottom="30dp"
android:textAlignment="center"
android:inputType="number" />

<Button
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```xml
android:id="@+id/b1"
android:layout_width="100dp"
android:layout_height="50dp"
android:layout_below="@id/et2"
android:layout_margin="60dp"
android:layout_centerHorizontal="true"
android:text="ADD" />

<TextView
android:id="@+id/tv1"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_below="@id/b1"
android:layout_centerHorizontal="true"
android:layout_marginStart="80dp"
android:layout_marginTop="30dp"
android:layout_marginEnd="80dp"
android:layout_marginBottom="30dp"
android:textSize="30dp"
android:text="Result"
android:textAlignment="center" />


</RelativeLayout>
```

MainActivity.java

```java
package com.example.my_applicationaccept;

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;

public class MainActivity extends AppCompatActivity {
Button bt1;
TextView tv;
EditText et1,et2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
    bt1=findViewById(R.id.b1);
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```java
    tv=findViewById(R.id.tv1);
    et1=findViewById(R.id.et1);
    et2=findViewById(R.id.et2);
    bt1.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View view) {
          int  num1=Integer.parseInt(et1.getText().toString());
          int  num2=Integer.parseInt(et2.getText().toString());
          int sum=num1+num2;
tv.setText(String.valueOf(sum));
       }
    });


  }
}
```

AndroidManifest.xml file

```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">

<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.My_ApplicationAccept"
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>

<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>

</manifest>
```

OUTPUT

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**
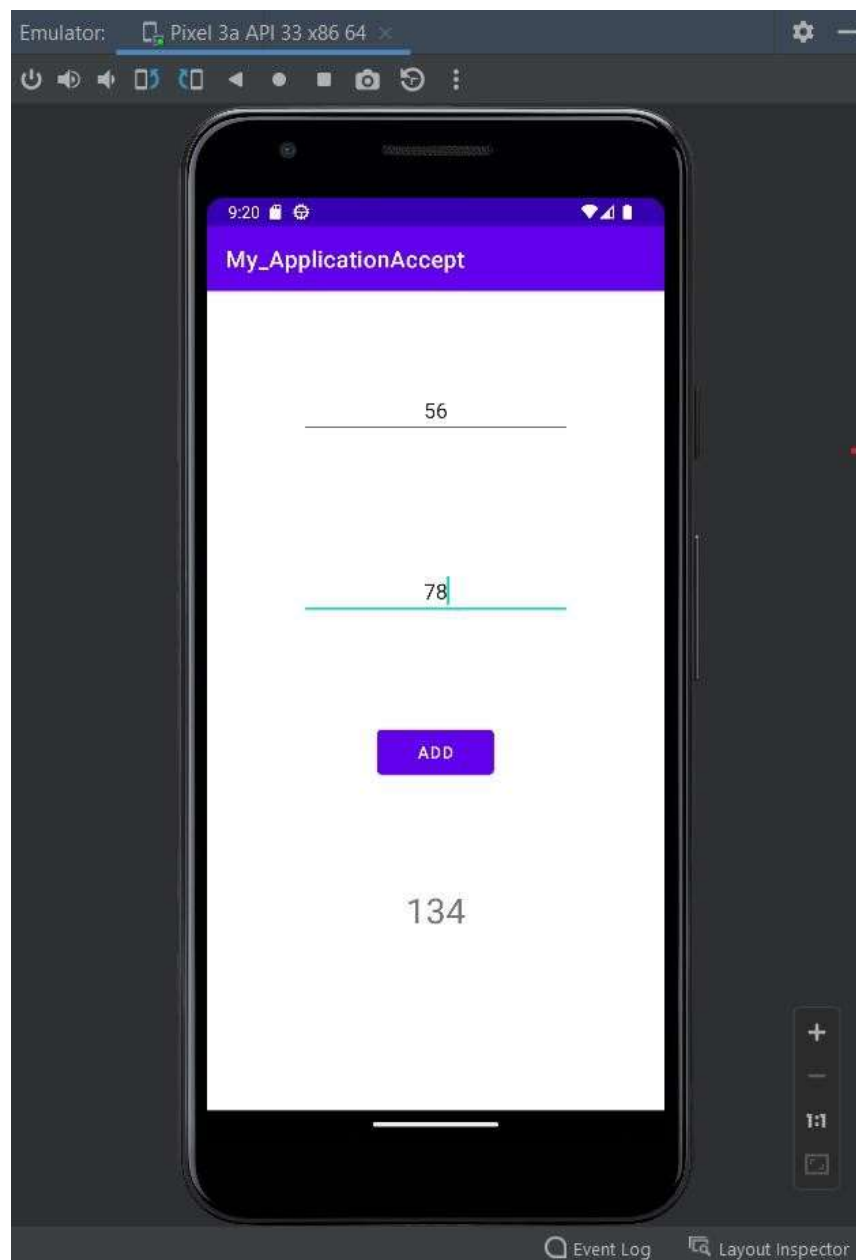
Problem Statement 7- Develop an Android Application to create a Simple Calculator

Objective- To design Calculator.

Activity_main.xml file

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayoutxmlns: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="wrap_content"
android:layout_height="wrap_content"

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
android:padding="30dp"/>
<EditText
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/et1"

android:layout_centerHorizontal="true"
android:layout_margin="80dp"
android:inputType="number"
android:textAlignment="center"/>

<EditText
android:id="@+id/et2"
android:layout_width="400dp"
android:layout_height="40dp"
android:layout_below="@id/et1"
android:layout_centerHorizontal="true"
android:layout_marginStart="10dp"
android:layout_marginTop="150dp"
android:layout_marginEnd="150dp"
android:layout_marginBottom="150dp"
android:inputType="number"
android:textAlignment="center" />


<Button
android:id="@+id/b1"
android:layout_width="match_parent"
```

21

```
android:layout_height="wrap_content"
android:layout_below="@id/et1"
android:layout_marginStart="90dp"
android:layout_marginEnd="240dp"
android:layout_marginTop="0dp"
android:text="ADD"
android:textAlignment="center"
    />
<Button
android:id="@+id/b2"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_below="@id/et1"
android:layout_marginStart="240dp"
android:layout_marginEnd="80dp"
android:layout_marginTop="0dp"
android:text="SUB"
android:textAlignment="center"
    />
<Button
android:id="@+id/b3"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_below="@id/b1"
android:layout_marginStart="90dp"
android:layout_marginEnd="240dp"
android:layout_marginTop="0dp"
android:text="MUL"
android:textAlignment="center"
    />
<Button
android:id="@+id/b4"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_below="@id/b2"
android:layout_marginStart="240dp"
android:layout_marginEnd="80dp"
android:layout_marginTop="0dp"
android:text="DIV"
android:textAlignment="center"
    />

<TextView
android:id="@+id/tv1"
android:layout_width="200dp"
android:layout_height="50dp"
android:layout_below="@id/b1"
android:layout_centerHorizontal="true"
android:layout_marginStart="10dp"
```

22

```
android:layout_marginTop="200dp"
android:layout_marginBottom="80dp"
android:text="Result"
android:textAlignment="center"
android:textSize="30dp" />

</RelativeLayout>
```

MainActivity.java

```java
package com.example.calculatortwo;

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;

public class MainActivity extends AppCompatActivity {
    Button bt1,bt2,bt3,bt4;
TextView tv;
EditText et1,et2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
        bt1=findViewById(R.id.b1);
        bt2=findViewById(R.id.b2);
        bt3=findViewById(R.id.b3);
        bt4=findViewById(R.id.b4);
        tv=findViewById(R.id.tv1);
        et1=findViewById(R.id.et1);
        et2=findViewById(R.id.et2);
        bt1.setOnClickListener(new View.OnClickListener() {
          @Override
          public void onClick(View view) {
            int  num1=Integer.parseInt(et1.getText().toString());
            int  num2=Integer.parseInt(et2.getText().toString());
            int sum=num1+num2;
tv.setText(String.valueOf(sum));
        }
      });

    bt2.setOnClickListener(new View.OnClickListener() {
        @Override
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```java
        public void onClick(View view) {
            int sum = 0;
            int  num1=Integer.parseInt(et1.getText().toString());
            int  num2=Integer.parseInt(et2.getText().toString());
            if(num1>num2)
               sum=num1-num2;
            else
               sum=num2-num1;
tv.setText(String.valueOf(sum));
        }
    });

    bt3.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View view) {
           int  num1=Integer.parseInt(et1.getText().toString());
           int  num2=Integer.parseInt(et2.getText().toString());
           int sum=num1*num2;
tv.setText(String.valueOf(sum));
        }
    });

    bt4.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View view) {
           int  num1=Integer.parseInt(et1.getText().toString());
           int  num2=Integer.parseInt(et2.getText().toString());
           int sum=num1/num2;
tv.setText(String.valueOf(sum));
        }
    });
   }
}
```

AndroidManifest.xml file

```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">

<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"
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```
android:roundIcon="@mipmap/ic_launcher_round"
android:supportsRtl="true"
android:theme="@style/Theme.My_Calculator"
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>

<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>

</manifest>
```

OUTPUT
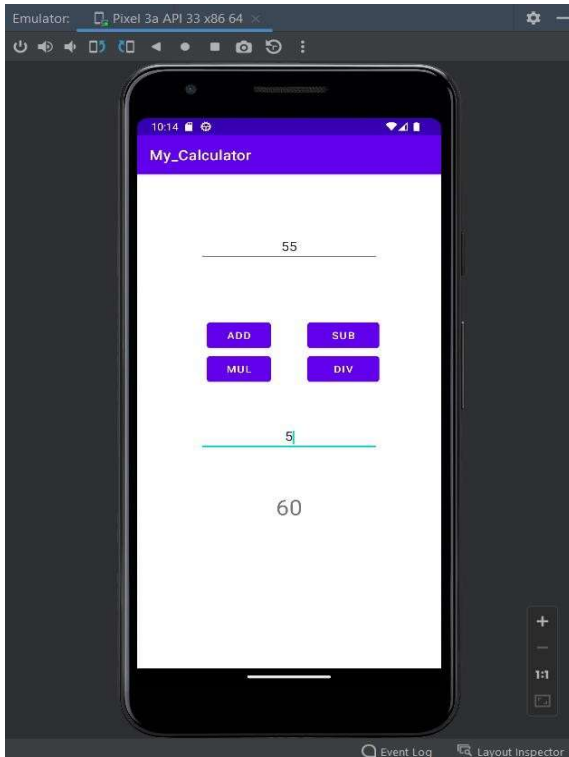
SUM   SUBTRACT
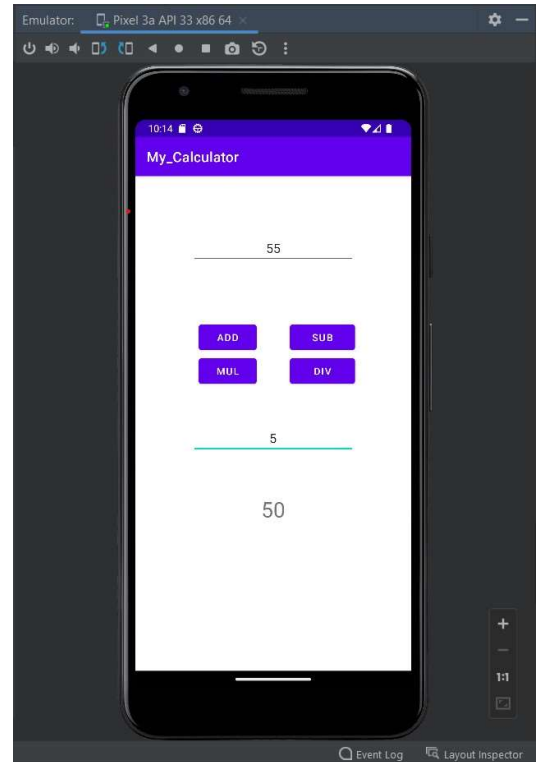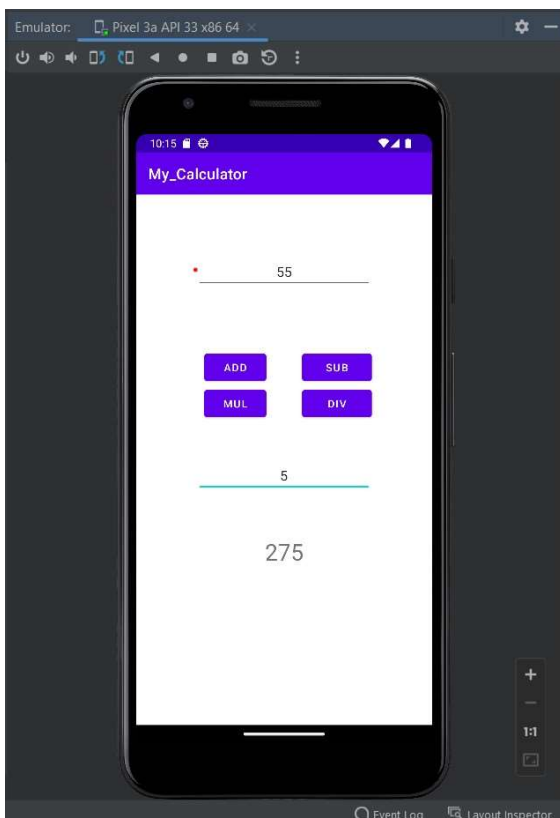
MULTIPLY   DIVIDE
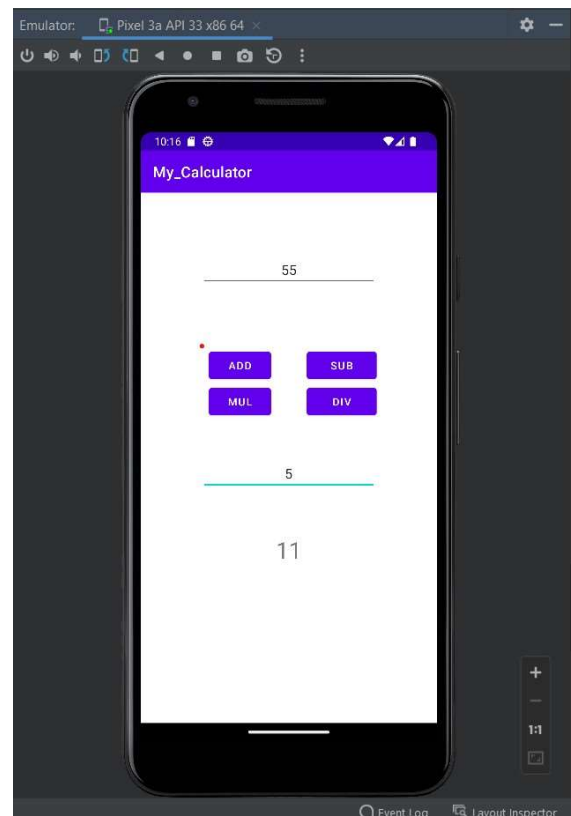
Problem Statement 8- Develop an Android Application to create two buttons having symbols "<" and ">" and also insert the image between these buttons and when clicked on buttons, image should get changed.

Objective-To change images between two buttons.

Activity_main.xml file

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayoutxmlns: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="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" />
<Button
android:layout_width="100dp"
android:layout_height="50dp"
android:id="@+id/b1"
android:layout_marginTop="150dp"
android:drawableTop="@drawable/next"
android:layout_centerHorizontal="true"
    />
<Button
android:layout_width="100dp"
android:layout_height="50dp"
android:id="@+id/b2"
android:layout_centerHorizontal="true"
android:layout_marginTop="500dp"
android:drawableTop="@drawable/previous"
    />
<ImageView
android:layout_width="300sp"
android:layout_height="300sp"
android:id="@+id/iv"
android:layout_centerInParent="true"
android:background="#0ff"
android:layout_below="@+id/b1"/>

</RelativeLayout>
```

MainActivity.java

```java
package com.example.my_imageapplication;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
        Button bt1,bt2;
ImageView iv1;

        bt1 = findViewById(R.id.b1);
        bt2 = findViewById(R.id.b2);
        iv1 = findViewById(R.id.iv);
        bt1.setOnClickListener(new View.OnClickListener() {
            @Override
            public    void    onClick(View    view)    {
                iv1.setImageResource(R.drawable.flower);

            }
        });
        bt2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                iv1.setImageResource(R.drawable.ice);
            }
        });
    }
}
```

AndroidManifest.xml file

```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">

<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.My_ImageApplication"
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>

<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>

</manifest>
```
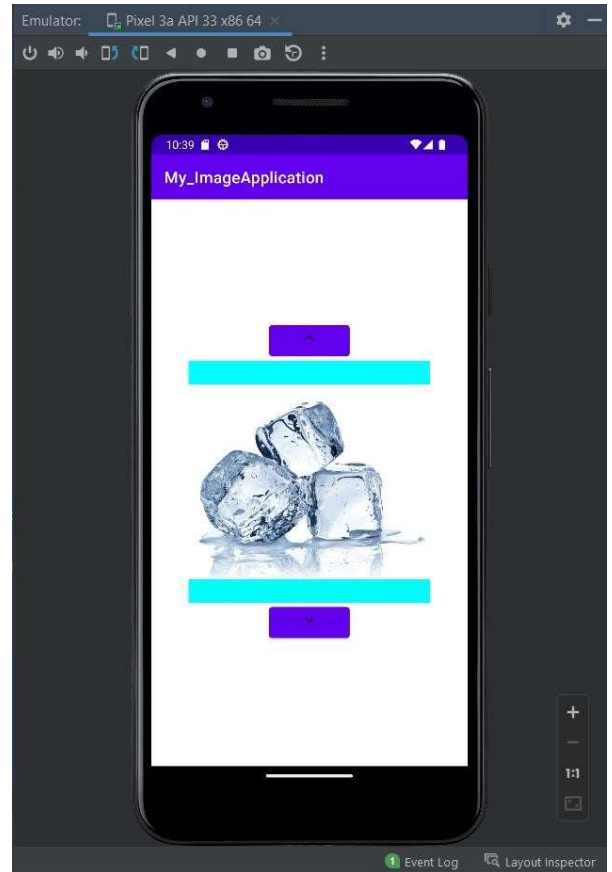
OUTPUT

Problem Statement 9- Develop an android application to create a list of courses using Array Adapter.

Objective-To display list of courses

Activity_main.xml file

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

<ListView
android:id="@+id/list"
android:layout_width="match_parent"
android:layout_height="match_parent"/>

</RelativeLayout>
```

MainActivity.java

```java
package com.example.my_list1;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
ListView l;
    String contents[] = {"BCA", "B.tech CS", "B.tech Mechanical", "BBA", "BSC IT", "BFA","BSC
agriculture"};

    @Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
     l = findViewById(R.id.list);
ArrayAdapter<String>arrayAdapter = new ArrayAdapter<String>(this,
android.R.layout.simple_list_item_1, contents);
l.setAdapter(arrayAdapter);
l.setOnItemClickListener(new AdapterView.OnItemClickListener() {
```

31

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```java
        @Override
        public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
            String clickedItem=(String) l.getItemAtPosition(position);
Toast.makeText(MainActivity.this,clickedItem, Toast.LENGTH_LONG).show();
        }
    });
  }
}
```

AndroidManifest.xml file

```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">

<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.My_List1"
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>

<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>

</manifest>
```
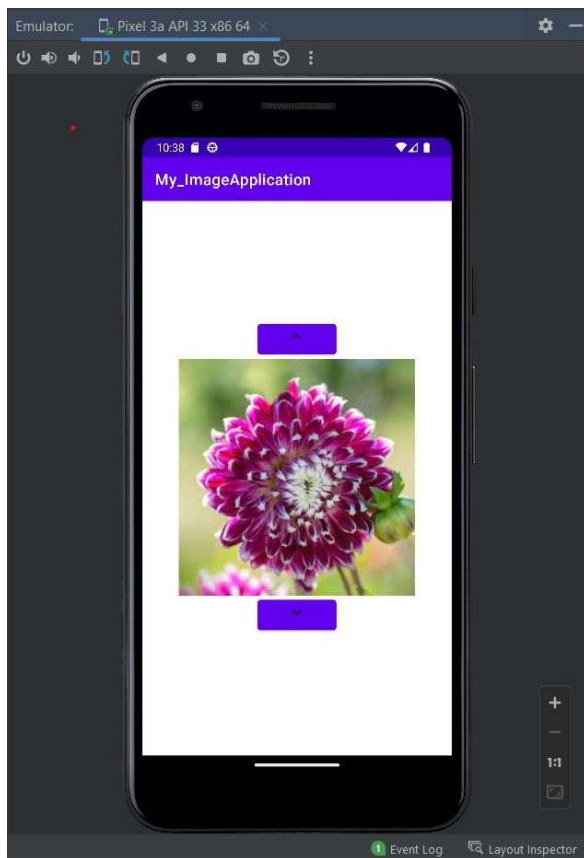
32

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

OUTPUT

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**
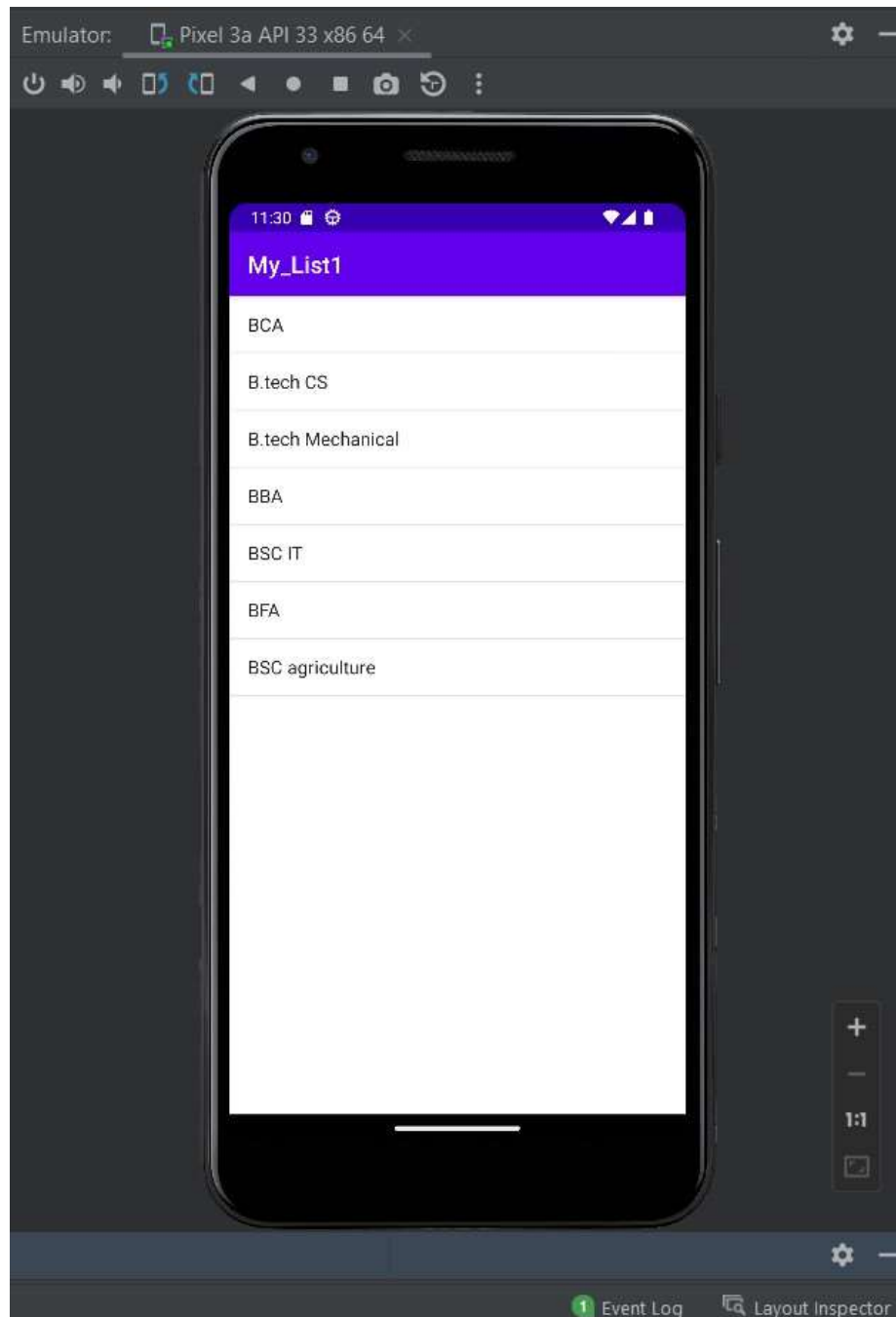
Problem Statement 10-Develop an android application to create a list to display the names and roll no. of students on the screen using Array Adapter.

Objective-To display list of names and roll no

Activity_main.xml file

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

<Spinner
android:id="@+id/spinner1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_centerHorizontal="true"
android:layout_marginTop="200dp"/>



</RelativeLayout>
```

MainActivity.java

```java
package com.example.my_list2;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements AdapterView.OnItemSelectedListener {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
        Spinner spinner=findViewById(R.id.spinner1);
ArrayAdapter<CharSequence> adapter = ArrayAdapter.createFromResource(this,
R.array.numbers, android.R.layout.simple_spinner_item);
        adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```java
spinner.setAdapter(adapter);
spinner.setOnItemSelectedListener(this);
   }

  @Override
  public void onItemSelected(AdapterView<?> parent, View view, int position, long id) {
     String text = parent.getItemAtPosition(position).toString();
Toast.makeText(parent.getContext(), text, Toast.LENGTH_SHORT).show();
  }

  @Override
  public void onNothingSelected(AdapterView<?> parent) {

  }
}
```

strings.xml

```xml
<resources>
<string name="app_name">My_List2</string>
<string-array name="numbers">
<item>Click</item>
<item>Rohan-55</item>
<item>Saloni-23</item>
<item>Kartikey-78</item>
<item>Amey-14</item>
<item>Akhil-20</item>
<item>Chiya-45</item>
</string-array>

</resources>
```

AndroidManifest.xml file

```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">

<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.My_List2"
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>

<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>

</manifest>
```
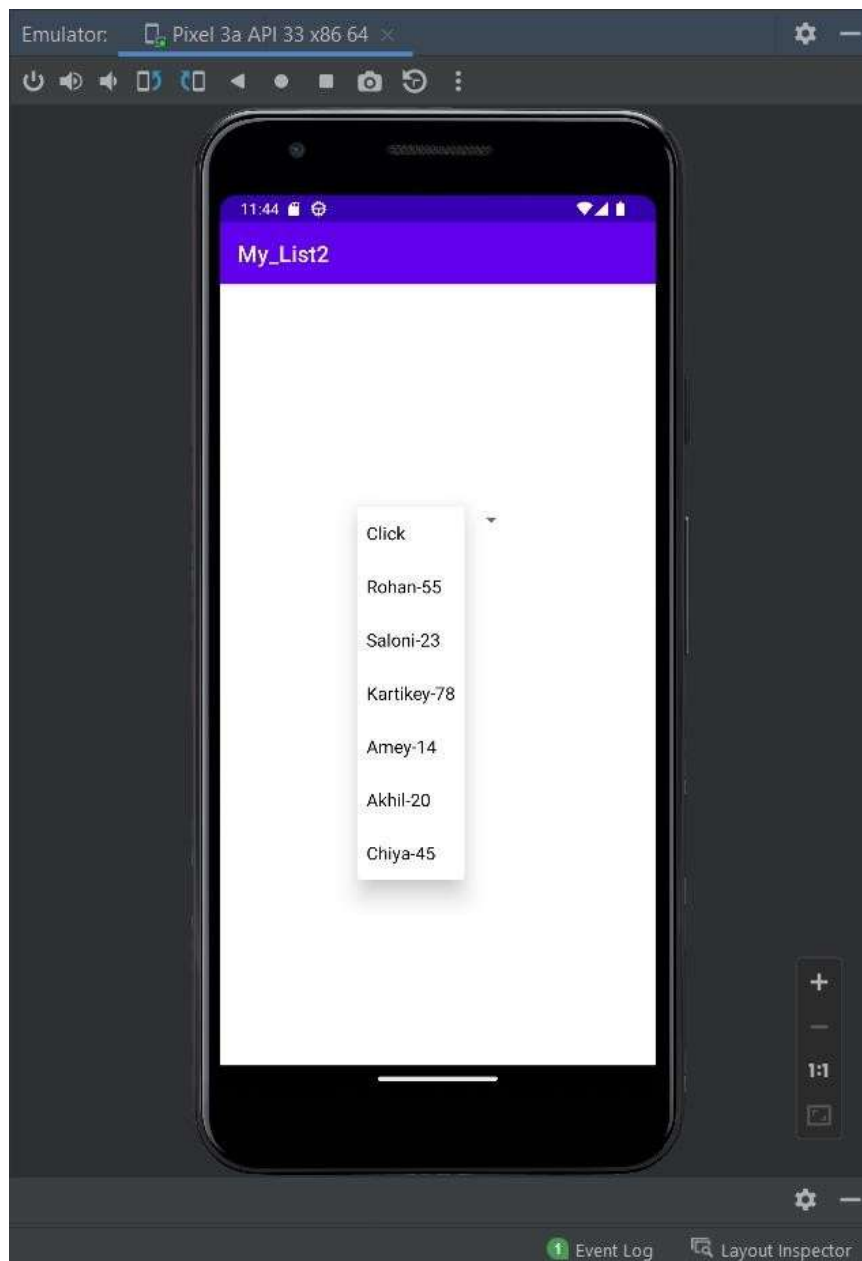
OUTPUT

Problem Statement 11- Develop an android application to create 4 radio buttons of different colors. When user clicks on any of the button, the background color of the text-view should get changed.

Objective-To display radio buttons

Activity_main.xml file

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayoutxmlns: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"
android:id="@+id/rel">

<TextView
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" />
<RadioGroup
android:layout_width="match_parent"
android:layout_height="match_parent"
android:id="@+id/rg"
android:orientation="vertical" >

<RadioButton
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/blue"
android:layout_marginStart="130dp"
android:layout_marginTop="200dp"
android:checked="true"
android:text="blue"
android:textSize="20dp" />
<RadioButton
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/green"
android:layout_marginStart="130dp"
android:checked="false"
android:text="green"
android:textSize="20dp"
android:layout_below="@+id/Paris" />
```

```
<RadioButton
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/cyan"
android:layout_marginStart="130dp"
android:checked="false"
android:text="cyan"
android:textSize="20dp"
android:layout_below="@+id/cyan" />
<RadioButton
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/red"
android:layout_marginStart="130dp"
android:layout_below="@+id/red"
android:checked="false"
android:text="red"
android:textSize="20dp" />
</RadioGroup>
<Button
android:layout_width="100dp"
android:layout_height="50dp"
android:layout_centerHorizontal="true"
android:layout_marginTop="550dp"
android:text="Submit"
android:id="@+id/submitButton" />


</RelativeLayout>
```

MainActivity.java

```
package com.example.my_radiobutton;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.RadioButton;
import android.widget.RelativeLayout;

public class MainActivity extends AppCompatActivity {
RadioButtonblue,green,cyan,red;
   Button submit;
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```java
RelativeLayoutrl;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
     blue=findViewById(R.id.blue);
     green=findViewById(R.id.green);
     cyan=findViewById(R.id.cyan);
     red=findViewById(R.id.red);
     submit=findViewById(R.id.submitButton);
rl=findViewById(R.id.rel);
submit.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
           if(blue.isChecked())
           {
rl.setBackgroundColor(Color.BLUE);
           }
           else if(green.isChecked()) {
rl.setBackgroundColor(Color.GREEN);
           }
           else if(cyan.isChecked())
           {
rl.setBackgroundColor(Color.CYAN);
           }
           else if(red.isChecked())
           {
rl.setBackgroundColor(Color.RED);
           }
        }
     });
   }
}
```

AndroidManifest.xml file

```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">

<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"
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```
android:supportsRtl="true"
android:theme="@style/Theme.My_RadioButton"
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>

<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>

</manifest>
```
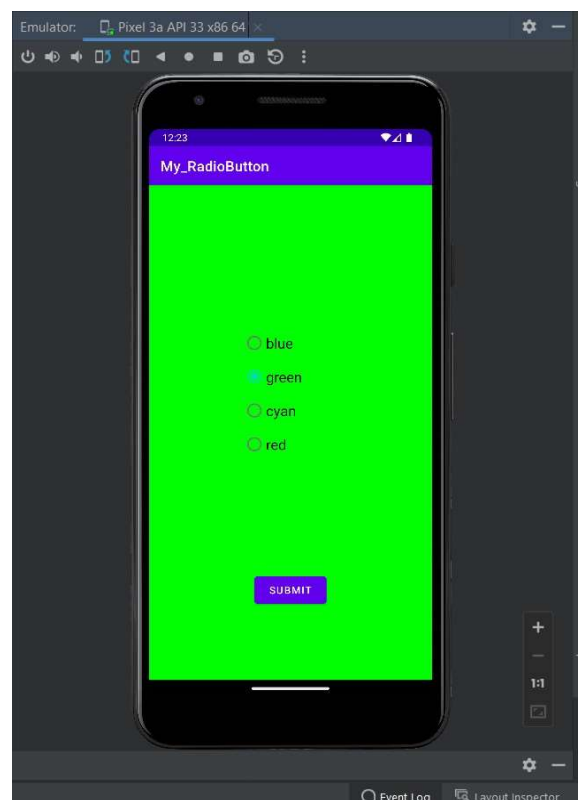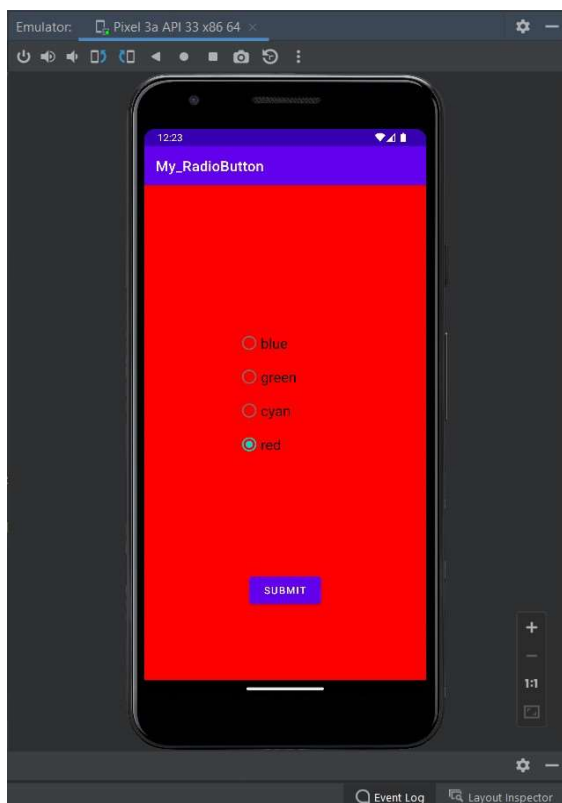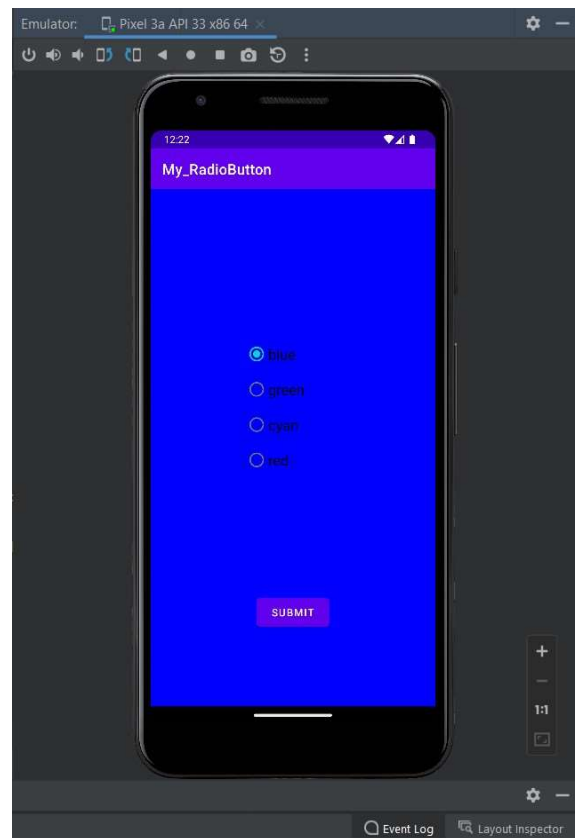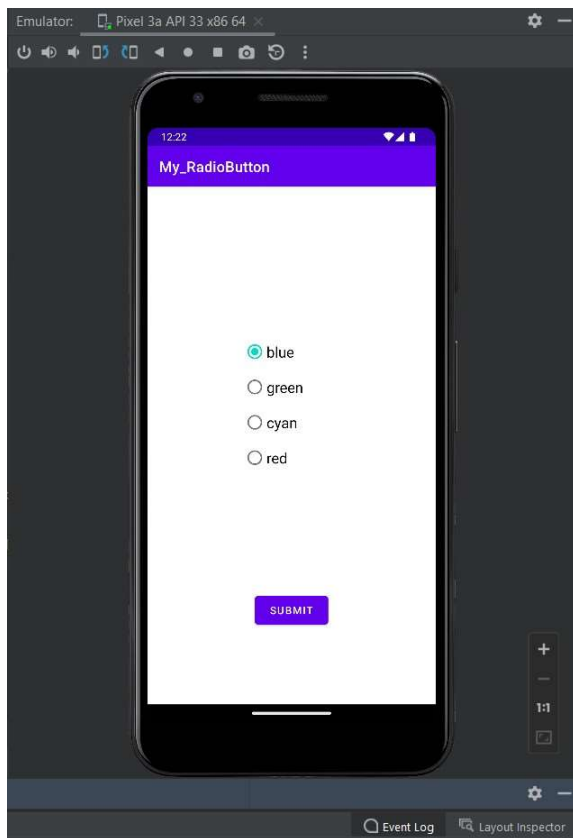
OUTPUT

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

Problem Statement 12- Develop an android application to create the following activity:-A toast message should get displayed when the user clicks on the submit button.
Objective-To display toast message

Activity_main.xml file

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayoutxmlns: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="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="26dp"
android:textSize="22dp"
android:textColor="@color/black"
android:text="Name:" />
<EditText
android:id="@+id/ed1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="16dp"
android:layout_toRightOf="@+id/tv1"
android:hint="Enter your name"
android:textSize="18dp" />

<TextView
android:id="@+id/tv2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/tv1"
android:layout_marginTop="17dp"
android:text="Age:"
android:textColor="@color/black"
android:textSize="22dp" />

<EditText
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/ed1"
android:layout_marginLeft="24dp"
android:layout_toRightOf="@+id/tv2"
android:hint="Enter your Age"
android:id="@+id/ed2"
android:textSize="18dp" />
```

```xml
<TextView
android:id="@+id/tv3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/tv2"
android:layout_marginTop="17dp"
android:text="Address:"
android:textColor="@color/black"
android:textSize="22dp" />
<EditText
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/ed2"
android:id="@+id/ed3"
android:layout_marginLeft="24dp"
android:layout_toRightOf="@+id/tv3"
android:hint="Enter your Address"
android:textSize="18dp" />
<TextView
android:id="@+id/tv4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/tv3"
android:layout_marginTop="17dp"
android:text="Phone No.:"
android:textColor="@color/black"
android:textSize="22dp" />
<EditText
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/ed3"
android:layout_marginLeft="24dp"
android:layout_toRightOf="@+id/tv4"
android:hint="Enter your Number"
android:textSize="18dp"
android:id="@+id/ed4"/>
<TextView
android:id="@+id/tv5"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/tv4"
android:layout_marginTop="17dp"
android:text="Blood Group:"
android:textColor="@color/black"
android:textSize="22dp" />
<EditText
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/ed4"
```

44

```xml
android:id="@+id/ed5"
android:layout_marginLeft="24dp"
android:layout_toRightOf="@+id/tv5"
android:hint="Enter your Blood Group"
android:textSize="18dp" />
<Button
android:id="@+id/bt1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="196dp"
android:layout_marginBottom="286dp"
android:text="Submit" />


</RelativeLayout>
```

MainActivity.java

```java
package com.example.my_toast;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    Button bt;
EditText ed1;
EditText ed2,ed3,ed4,ed5;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
bt=findViewById(R.id.bt1);
        ed1=findViewById(R.id.ed1);
        ed2=findViewById(R.id.ed2);
        ed3=findViewById(R.id.ed3);
        ed4=findViewById(R.id.ed4);
        ed5=findViewById(R.id.ed5);

bt.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            String name=ed1.getText().toString();
            String age=ed2.getText().toString();
```

45

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```java
        String add=ed3.getText().toString();
        String No=ed4.getText().toString();
        String Blood=ed5.getText().toString();
Toast.makeText(MainActivity.this,"Name:"+name+" Age:"+age+" Address:"+add+" Phone No:"+No+"
Blood Group:"+Blood, Toast.LENGTH_LONG).show();
        }
    });
  }
}
```

AndroidManifest.xml file

```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">

<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.My_Toast"
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>

<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>

</manifest>
```

OUTPUT
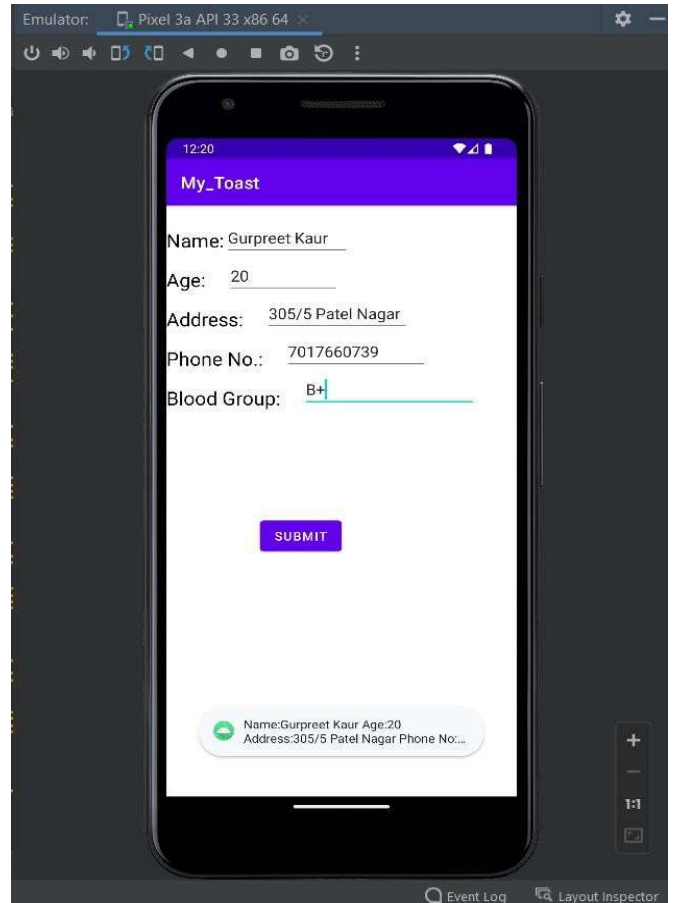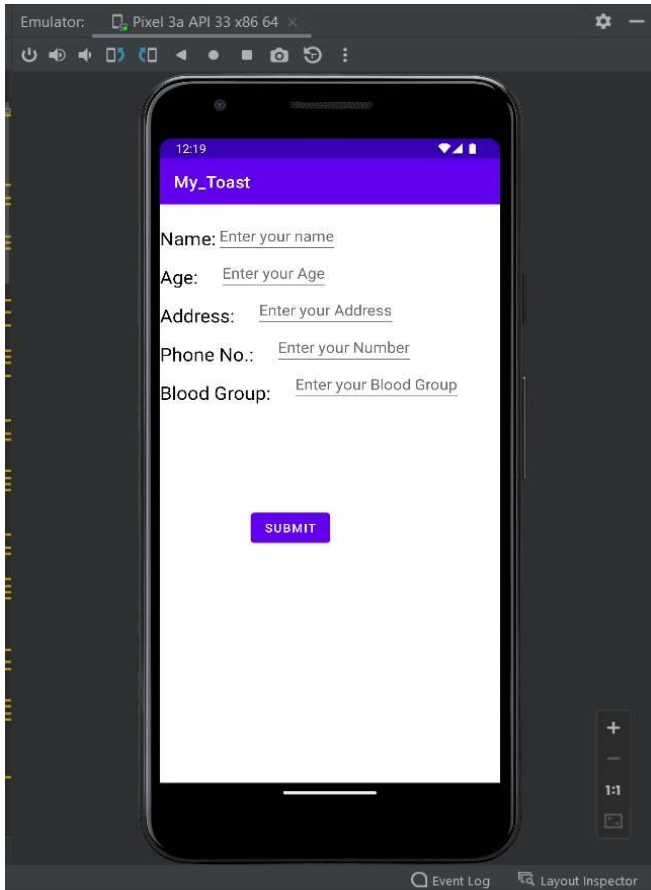
Problem Statement 13-Create an android application to create a Toggle Button having two values as ON and OFF and also insert a submit button. When the user clicks on Submit Button, then a Toast Message should generate displaying the state of the Toggle Button.

Objective-To display Toggle Button

Activity_main.xml file

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

<ToggleButton
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/toggleButton"
android:text="ToggleButton"
android:textOff="Off"
android:textOn="On"
android:layout_below="@+id/button"
android:layout_centerHorizontal="true"
android:layout_margin="70dp"
android:textSize="30dp" />
<Button
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/button"
android:layout_margin="70dp"
android:layout_centerHorizontal="true"
android:text="Submit"/>


</RelativeLayout>
```

MainActivity.java

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

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

```java
public class MainActivity extends AppCompatActivity {
ToggleButton toggleButton1;
   Button buttonSubmit;

   @Override
   protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
     toggleButton1=findViewById(R.id.toggleButton);
buttonSubmit=findViewById(R.id.button);
buttonSubmit.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View view) {
            String res;
            res= toggleButton1.getText().toString();
            Toast.makeText(getApplicationContext(),res,Toast.LENGTH_LONG).show();
         }
      });
   }
}
```
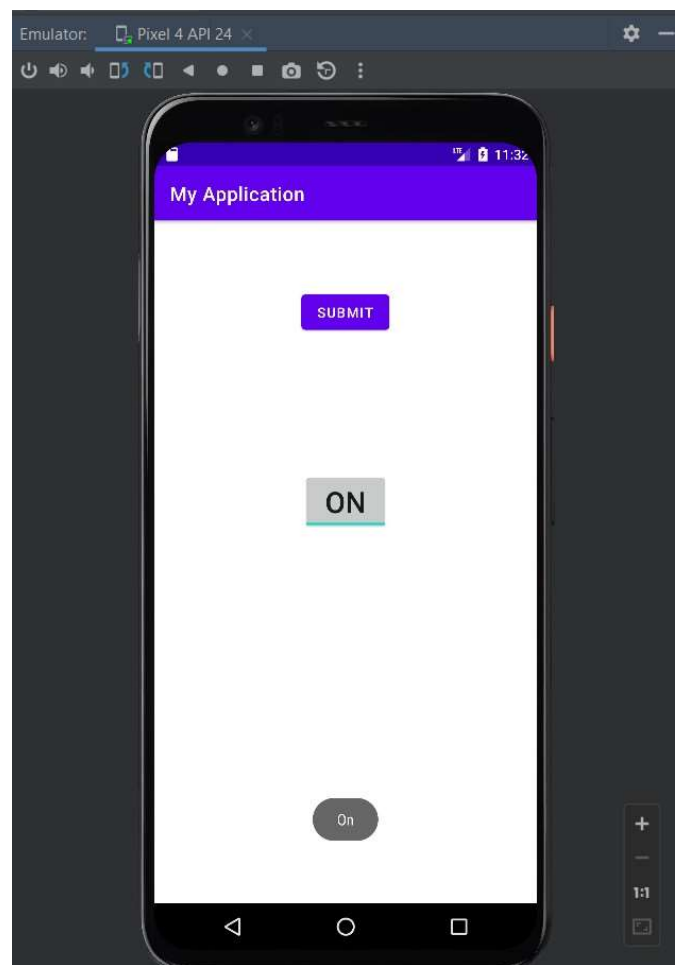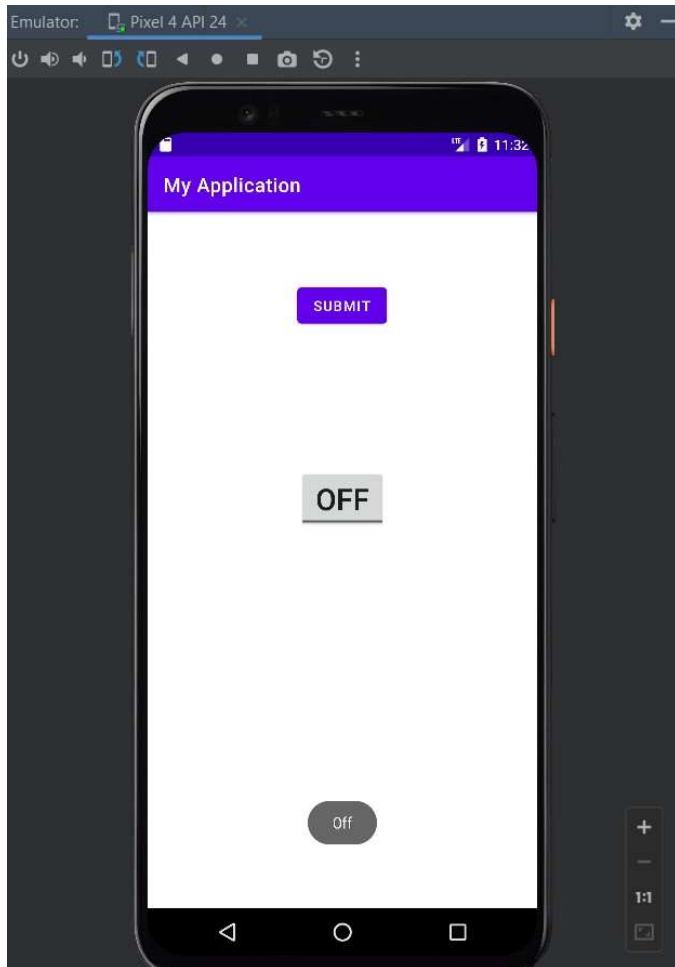
AndroidManifest.xml file

```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">

<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.My Application"
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>
<meta-data
android:name="android.app.lib_name"
android:value="" />
</activity>
</application>
</manifest>
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

OUTPUT

Problem Statement 14- Develop an android application to create an AutoCompleteTextView. When user enters the value in Text View, the AutoCompleteTextView should show the full value to be inserted.

Objective-To implement AutoCompleteTextView

Activity_main.xml file

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayoutxmlns: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">
<AutoCompleteTextView
android:id="@+id/autoComplete"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginLeft="20dp"
android:layout_marginTop="100dp"
android:layout_marginRight="20dp"
android:completionThreshold="1"
android:hint="Type here to search"
android:padding="20dp"
android:paddingLeft="5dp"
android:textColor="@color/black">
</AutoCompleteTextView>
</RelativeLayout>
```

MainActivity.java

```java
package com.example.autocompletetextview;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.AutoCompleteTextView;

public class MainActivity extends AppCompatActivity {

AutoCompleteTextViewautoCompleteTextView;
ArrayAdapter<String>arrayAdapter;
    String[]items={"How to use Android Studio","Android Studio codes in java","Main questions for
exam"};

    @Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
autoCompleteTextView=findViewById(R.id.autoComplete);
```

```java
arrayAdapter=new ArrayAdapter<String>(MainActivity.this, android.R.layout.simple_list_item_1,items);
autoCompleteTextView.setAdapter(arrayAdapter);
    }
}
```

AndroidManifest.xml file

```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"
    package="com.example.autocompletetextview">

<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.Autocompletetextview"
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>
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

OUTPUT
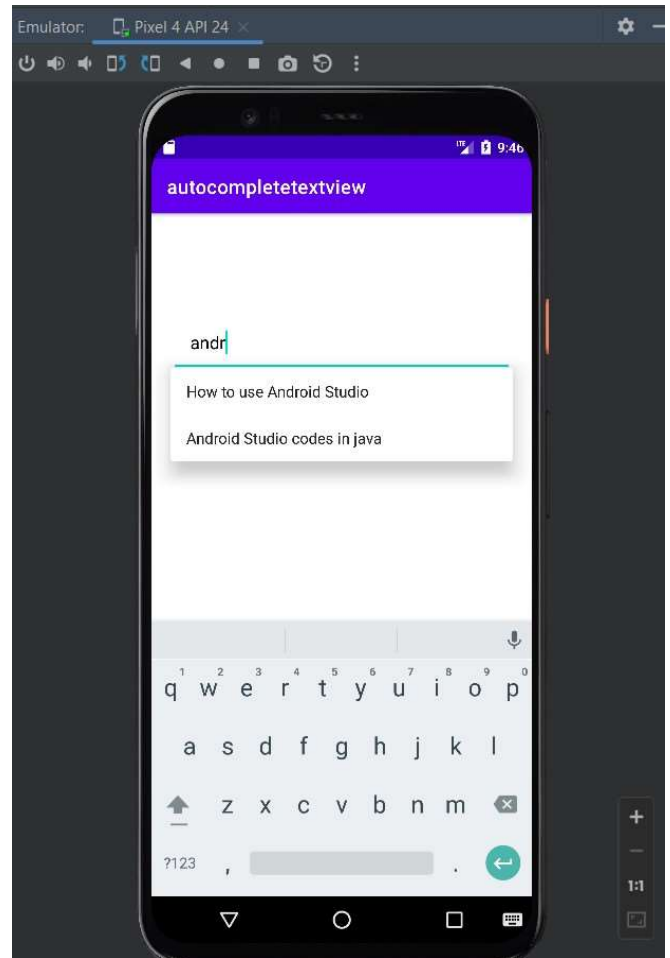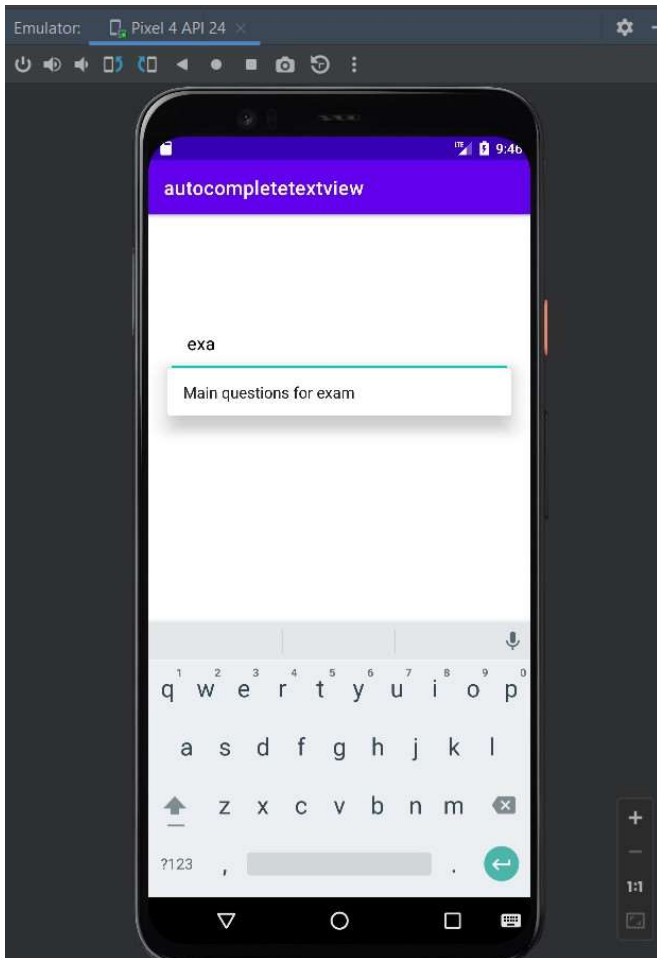
Problem Statement 15 - Create an android application to demonstrate implicit intent.

Objective-To implement implicit intent

Activity_main.xml file

```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">

   <EditText
      android:id="@+id/et"
      android:layout_width="match_parent"
      android:layout_height="wrap_content" />
   <Button
      android:id="@+id/btn"
      android:text="Search"
      android:onClick="search"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_centerVertical="true"
      android:layout_centerHorizontal="true"/>



</RelativeLayout>
```

MainActivity.java

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
   EditText et;
   Button btn;

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

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

54

```java
        et = (EditText) findViewById(R.id.et);

        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String url=et.getText().toString();
                Intent intent = new Intent(Intent.ACTION_VIEW, Uri.parse(url));
                startActivity(intent);
            }
        });

    }
}
```

AndroidManifest.xml file

```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">

    <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>

            <meta-data
                android:name="android.app.lib_name"
                android:value="" />
        </activity>
    </application>

</manifest>
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

OUTPUT

Problem Statement 16 - Develop an android application to create image gallery using grid layout and intent

Objective-To implement GridView and Explicit intent

<div align="center"><u>**Activity_main.xml file**</u></div>

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:orientation="vertical">

    <GridView
        android:id="@+id/g1"
        android:layout_height="wrap_content"
        android:layout_width="fill_parent"
        android:padding="1dp"
        android:numColumns="3"
        />

</LinearLayout>
```

<div align="center"><u>**activity_gridview.xml**</u></div>

```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="wrap_content"
    android:padding="1dp"
    android:orientation="vertical">

    <ImageView
        android:id="@+id/icon"
        android:layout_width="match_parent"
        android:layout_height="120dp"
        android:scaleType="fitXY"
        android:layout_gravity="center_horizontal"
        android:src="@drawable/logo1" />

</LinearLayout>
```

<div align="center"><u>**activity_second.xml**</u></div>

```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="#fff"
    tools:context="com.example.implicit.SecondActivity" >
```

```xml
  <ImageView
     android:id="@+id/selectedImage"
     android:layout_width="match_parent"
     android:layout_height="wrap_content"
     android:layout_centerInParent="true"
     android:scaleType="fitXY" />

</RelativeLayout>
```

MainActivity.java

```java
package com.example.implicit;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.GridView;


public class MainActivity extends AppCompatActivity {
    GridView gv1;

    int logos[] = {R.drawable.logo1, R.drawable.logo2, R.drawable.logo3, R.drawable.logo4,
        R.drawable.logo5, R.drawable.logo6, R.drawable.logo7, R.drawable.logo8, R.drawable.logo9,
        R.drawable.logo10, R.drawable.logo11, R.drawable.logo12, R.drawable.logo13};

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

        gv1=findViewById(R.id.g1);
        CustomAdapter ca = new CustomAdapter(getApplicationContext(), logos);
        gv1.setAdapter(ca);

        gv1.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> adapterView, View view, int pos, long ID) {
                Intent i=new Intent(MainActivity.this, SecondActivity.class);
                i.putExtra("image", logos[pos]);
                startActivity(i);
            }
        });
    }
}
```

CustomAdapter.java

```java
package com.example.implicit;

import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.BaseAdapter;
import android.widget.ImageView;

public class CustomAdapter extends BaseAdapter {
    Context context;

    int logos[];
    LayoutInflater inflter;

    public CustomAdapter(Context applicationContext, int[] logos) {
        this.context = applicationContext;
        this.logos = logos;
        inflter = (LayoutInflater.from(applicationContext));
    }

    public int getCount() {
        return logos.length;
    }

    public Object getItem(int i) {
        return null;
    }

    public long getItemId(int i) {
        return 0;
    }

    public View getView(int i, View view, ViewGroup viewGroup) {
        view = inflter.inflate(R.layout.activity_gridview, null); // inflate the layout
        ImageView icon = (ImageView) view.findViewById(R.id.icon); // get the reference of ImageView
        icon.setImageResource(logos[i]); // set logo images
        return view;
    }
}
```

SecondActivity.java

```java
package com.example.implicit;

import android.content.Intent;
import android.os.Bundle;
import android.widget.ImageView;
import androidx.appcompat.app.AppCompatActivity;
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```java
public class SecondActivity extends AppCompatActivity {

    ImageView iv;

    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_second);
        iv =  findViewById(R.id.selectedImage); // init a ImageView
        Intent intent = getIntent(); // get Intent which we set from Previous Activity
        iv.setImageResource(intent.getIntExtra("image", 0)); // get image from Intent and set it in ImageView
    }
}
```
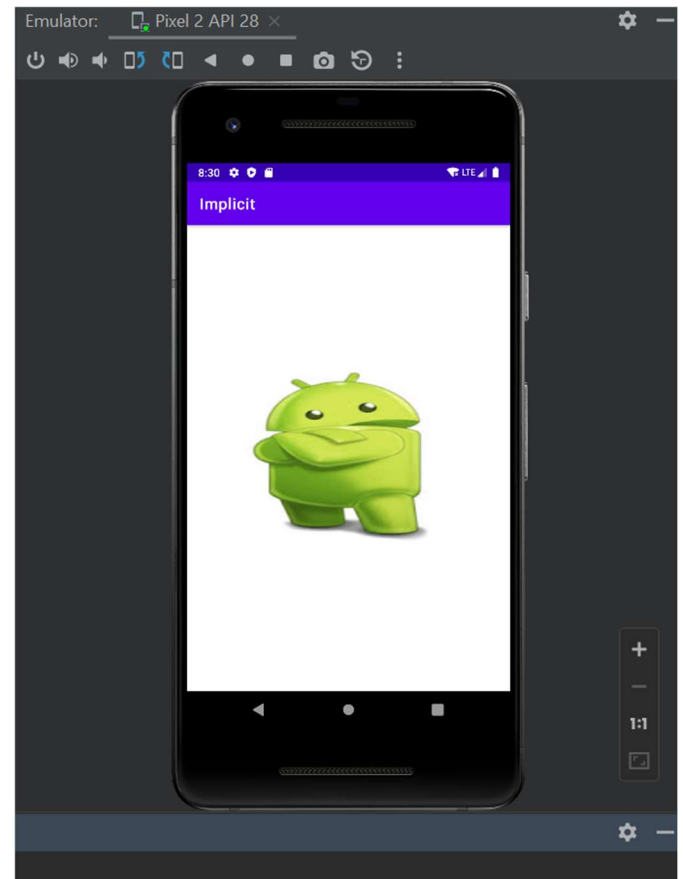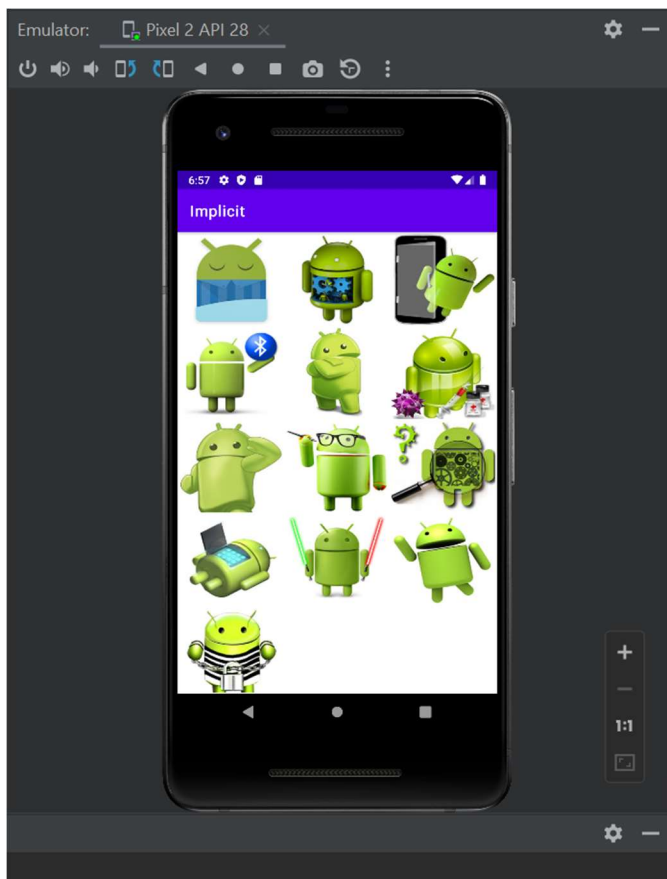
Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

OUTPUT

Problem Statement 17 - Develop an android application to demonstrate the use of event listener and event handler

Objective-To implement setOnClickListener() and setOnLongClickListener()

Activity_main.xml file

```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">

  <TextView
    android:id="@+id/textview"
    android:layout_width="match_parent"
    android:layout_height="72dp"
    android:layout_marginTop="20dp"
    android:text="Hello !! World"
    android:textAlignment="center"
    android:textSize="30dp" />

  <Button
    android:id="@+id/button"
    android:layout_width="171dp"
    android:layout_height="59dp"
    android:layout_below="@+id/textview"
    android:layout_alignParentStart="true"
    android:layout_alignParentEnd="true"
    android:layout_marginStart="150dp"
    android:layout_marginTop="224dp"
    android:layout_marginEnd="150dp"
    android:layout_marginBottom="150dp"
    android:text="Click"
    android:textAlignment="center"
    android:textSize="20dp"/>

</RelativeLayout>
```

MainActivity.java

```java
package com.example.my_eventhandler;

import androidx.appcompat.app.AppCompatActivity;
import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;
```

```java
public class MainActivity extends AppCompatActivity {
    Button b1;
    TextView tv1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1=findViewById(R.id.button);
        tv1=findViewById(R.id.textview);

        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Toast.makeText(MainActivity.this,"This is setOnClickListener",Toast.LENGTH_SHORT).show();
            }
        });
        b1.setOnLongClickListener(new View.OnLongClickListener() {
            @Override
            public boolean onLongClick(View view) {
                tv1.setBackgroundColor(Color.RED);
                return false;
            }
        });
    }
}
```

AndroidManifest.xml file

```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">

    <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.My_EventHandler"
        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>
```

63

```xml
        <meta-data
          android:name="android.app.lib_name"
          android:value="" />
    </activity>
  </application>

</manifest>
```

OUTPUT
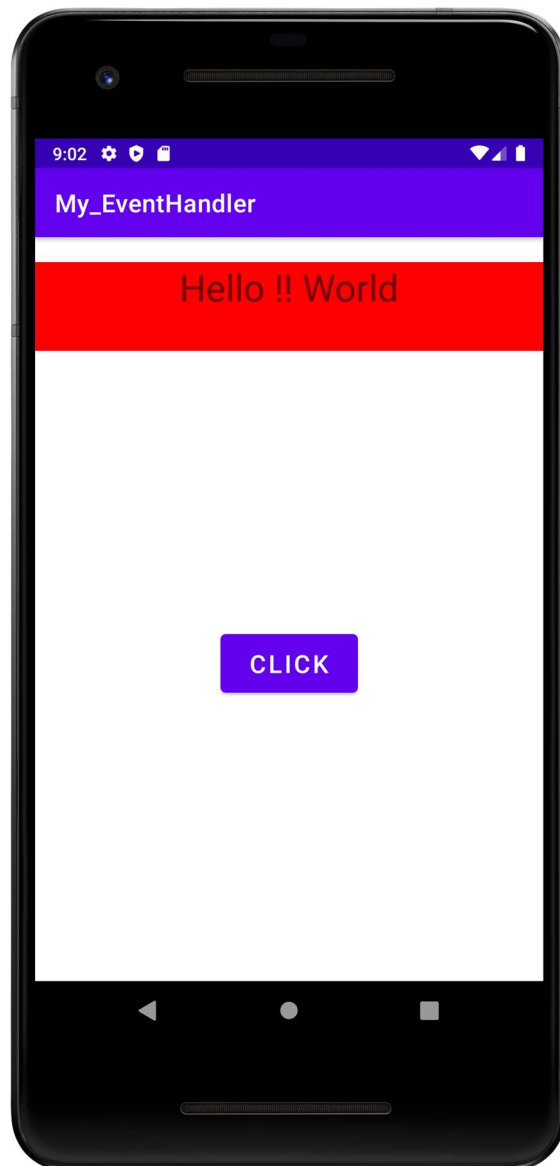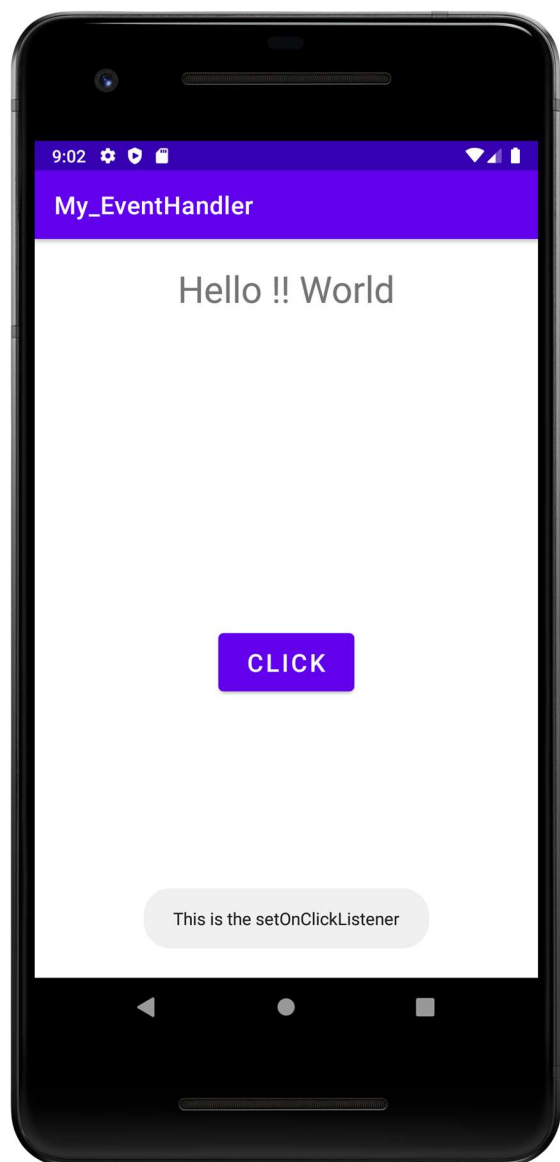
Problem Statement 18 - Develop an android application to create a table layout

Objective- To use Table Layout

Activity_main.xml file

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

    <TableRow>

        <TextView
            android:layout_height="wrap_content"
            android:layout_width="wrap_content"
            android:text="row 1 col 1"
            android:textSize="20dp"
            android:padding="20dp"
            android:background="#00ffff"
            android:layout_margin="2dp"
            />

        <TextView
            android:layout_height="wrap_content"
            android:layout_width="wrap_content"
            android:text="row 1 col 2"
            android:background="#f5f5dc"
            android:textSize="20dp"
            android:padding="20dp"
            android:layout_margin="2dp"/>

        <TextView
            android:layout_height="wrap_content"
            android:layout_width="wrap_content"
            android:text="row 1 col 3"
            android:background="#8a2be2"
            android:textSize="20dp"
            android:padding="20dp"
            android:layout_margin="2dp"/>

    </TableRow>

    <TableRow>
        <TextView
            android:layout_height="wrap_content"
            android:layout_width="wrap_content"
            android:text="row 2 col 1"
            android:background="#00ffff"
```

66

```xml
        android:textSize="20dp"
        android:padding="20dp"
        android:layout_span="2"
        android:textAlignment="center"
        android:layout_margin="2dp"
        />

    <TextView
        android:layout_height="wrap_content"
        android:layout_width="wrap_content"
        android:text="row 2 col 2"
        android:background="#f5f5dc"
        android:textSize="20dp"
        android:padding="20dp"
        android:layout_margin="2dp"/>


  </TableRow>
  <TableRow>
    <TextView
        android:layout_height="wrap_content"
        android:layout_width="wrap_content"
        android:text="Row 3 col 1"
        android:textSize="20dp"
        android:padding="20dp"
        android:layout_span="3"
        android:background="#00ffff"
        android:textAlignment="center"
        android:layout_margin="2dp"
        />
  </TableRow>

</TableLayout>
```

MainActivity.java

```java
package com.example.my_table1;

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);
  }
}
```

AndroidManifest.xml file

```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">

    <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.My_table1"
        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>

            <meta-data
                android:name="android.app.lib_name"
                android:value="" />
        </activity>
    </application>

</manifest>
```

OUTPUT
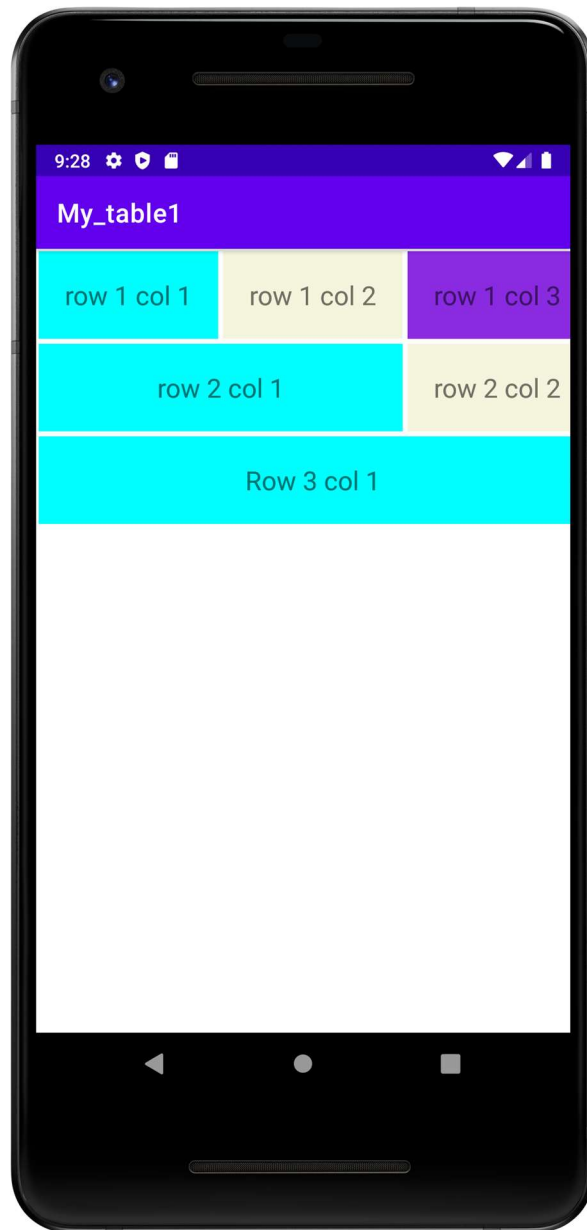
Problem Statement 19 - Develop an android application to create a login form using table layout

Objective- To create login form

Activity_main.xml file

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

  <TableRow>

    <TextView
      android:layout_height="wrap_content"
      android:layout_width="wrap_content"
      android:text="row 1 col 1"
      android:textSize="20dp"
      android:padding="20dp"
      android:background="#00ffff"
      android:layout_margin="2dp"
      />

    <TextView
      android:layout_height="wrap_content"
      android:layout_width="wrap_content"
      android:text="row 1 col 2"
      android:background="#f5f5dc"
      android:textSize="20dp"
      android:padding="20dp"
      android:layout_margin="2dp"/>

    <TextView
      android:layout_height="wrap_content"
      android:layout_width="wrap_content"
      android:text="row 1 col 3"
      android:background="#8a2be2"
      android:textSize="20dp"
      android:padding="20dp"
      android:layout_margin="2dp"/>

  </TableRow>

  <TableRow>
    <TextView
      android:layout_height="wrap_content"
      android:layout_width="wrap_content"
      android:text="row 2 col 1"
      android:background="#00ffff"
```

```xml
        android:textSize="20dp"
        android:padding="20dp"
        android:layout_span="2"
        android:textAlignment="center"
        android:layout_margin="2dp"
        />

    <TextView
        android:layout_height="wrap_content"
        android:layout_width="wrap_content"
        android:text="row 2 col 2"
        android:background="#f5f5dc"
        android:textSize="20dp"
        android:padding="20dp"
        android:layout_margin="2dp"/>


  </TableRow>
  <TableRow>
    <TextView
        android:layout_height="wrap_content"
        android:layout_width="wrap_content"
        android:text="Row 3 col 1"
        android:textSize="20dp"
        android:padding="20dp"
        android:layout_span="3"
        android:background="#00ffff"
        android:textAlignment="center"
        android:layout_margin="2dp"
        />
  </TableRow>

</TableLayout>
```

MainActivity.java

```java
package com.example.my_table2;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    Button b1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
```

```java
    b1=findViewById(R.id.button);
    b1.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            Toast.makeText(MainActivity.this,"Your Account has been
Registered",Toast.LENGTH_SHORT).show();
        }
    });
    }
}
```

AndroidManifest.xml file

```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">

    <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.My_table2"
        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>

            <meta-data
                android:name="android.app.lib_name"
                android:value="" />
        </activity>
    </application>

</manifest>
```

OUTPUT
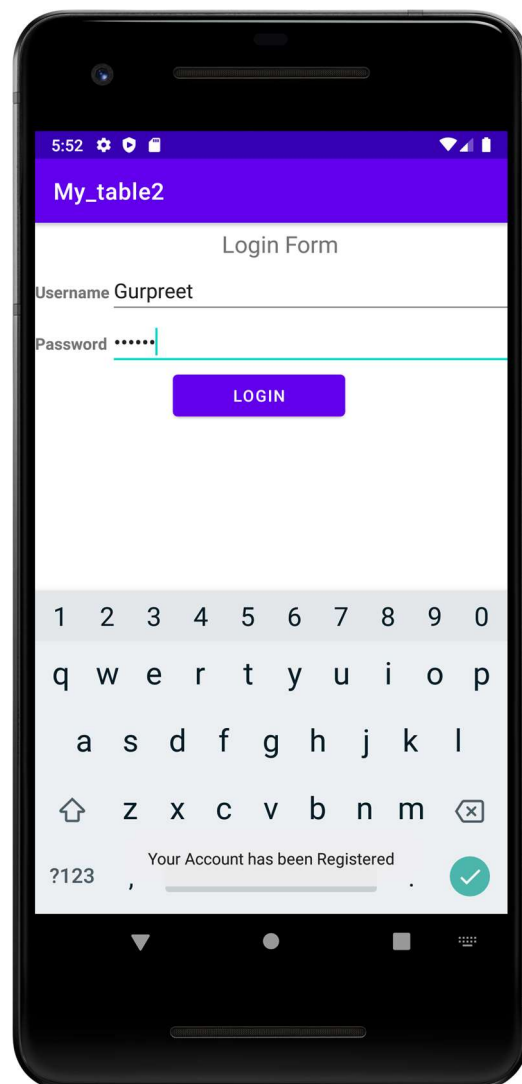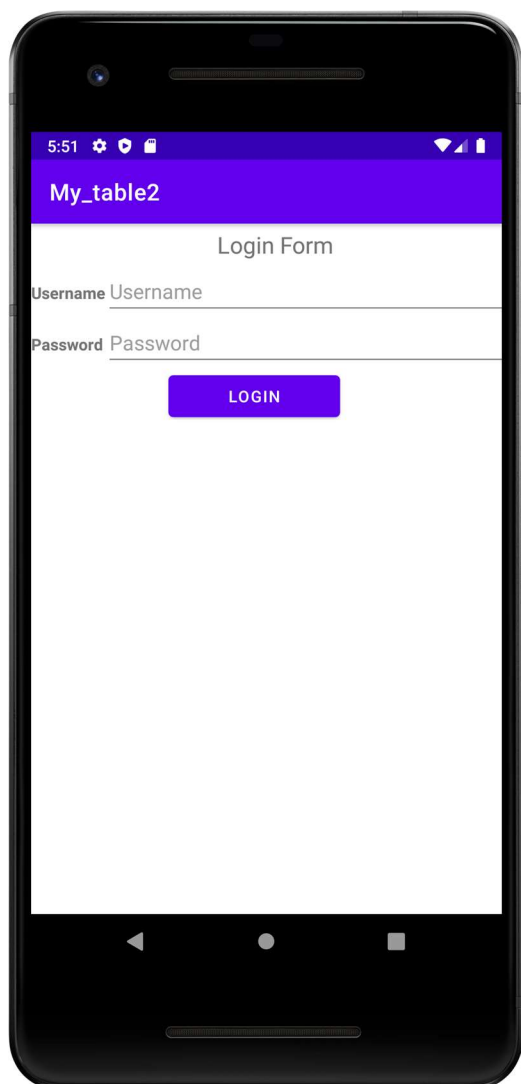
Problem Statement 20- Develop an android application to create a weather table using table layout

Objective- To create weather table using gif

Activity_main.xml file

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

  <TableRow
    android:layout_width="match_parent"
    android:layout_height="32dp">

  <TextView
    android:id="@+id/R1C1"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_span="7"
    android:text="Weather Table"
    android:textAlignment="center"/>

  </TableRow>

  <TableRow
    android:layout_width="match_parent"
    android:layout_height="wrap_content">

    <TextView
      android:layout_width="70dp"
      android:layout_height="match_parent"/>
    <TextView
      android:layout_width="50dp"
      android:layout_height="wrap_content"
      android:text="Feb 7" />

    <TextView
      android:layout_width="50dp"
      android:layout_height="wrap_content"
      android:text="Feb 8"/>
    <TextView
      android:layout_width="50dp"
      android:layout_height="wrap_content"
      android:text="Feb9"/>
    <TextView
      android:layout_width="50dp"
      android:layout_height="wrap_content"
```

74

```xml
        android:text="Feb 10" />
    <TextView
        android:layout_width="50dp"
        android:layout_height="wrap_content"
        android:text="Feb 11" />
    <TextView
        android:layout_height="match_parent"
        android:layout_width="70dp"/>

 </TableRow>

<TableRow
    android:layout_width="match_parent"
    android:layout_height="wrap_content" >

    <TextView
        android:layout_width="70dp"
        android:layout_height="match_parent"
        android:text="Day High" />

    <TextView
        android:layout_width="70dp"
        android:layout_height="match_parent"
        android:text="Day High"/>

    <TextView
        android:layout_width="50dp"
        android:layout_height="wrap_content"
        android:text="28*F"/>

    <TextView
        android:layout_width="50dp"
        android:layout_height="wrap_content"
        android:text="26*F"/>

    <TextView
        android:layout_width="50dp"
        android:layout_height="wrap_content"
        android:text="23*F"/>

    <TextView
        android:layout_width="50dp"
        android:layout_height="wrap_content"
        android:text="17*F"/>

    <TextView
        android:layout_height="match_parent"
        android:layout_width="70dp"
        android:text="19*F"/>
```

75

```xml
    <TextView
      android:layout_width="70dp"
      android:layout_height="match_parent"/>

 </TableRow>

 <TableRow
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    >
 <TextView
    android:layout_width="70dp"
    android:layout_height="match_parent"
    android:text="Day Low" />

 <TextView
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:text="15*F"/>
 <TextView
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:text="14*F" />

 <TextView
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:text="3*F" />

 <TextView
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:text="5*F"/>

 <TextView
    android:layout_width="50dp"
    android:layout_height="wrap_content"
    android:text="6*F"/>

 <TextView
    android:layout_height="match_parent"
    android:layout_width="70dp"/>
 </TableRow>

 <TableRow
    android:layout_width="match_parent"
    android:layout_height="wrap_content"  >
 <TextView
    android:layout_width="70dp"
    android:layout_height="match_parent"
```

```xml
    android:text="Conditions"/>

    <pl.droidsonroids.gif.GifImageView
      android:layout_width="10dp"
      android:layout_height="50dp"
      android:src="@drawable/sun1"
      />
    <pl.droidsonroids.gif.GifImageView
      android:layout_width="10dp"
      android:layout_height="50dp"
      android:src="@drawable/sun2"
      />
    <pl.droidsonroids.gif.GifImageView
      android:layout_width="10dp"
      android:layout_height="50dp"
      android:src="@drawable/sun3"
      />
    <pl.droidsonroids.gif.GifImageView
      android:layout_width="10dp"
      android:layout_height="50dp"
      android:src="@drawable/sun4"
      />
    <pl.droidsonroids.gif.GifImageView
      android:layout_width="10dp"
      android:layout_height="50dp"
      android:src="@drawable/sun5"
      />

    <TextView
      android:layout_width="70dp"
      android:layout_height="match_parent"/>
  </TableRow>
</TableLayout>
```

MainActivity.java

```java
package com.example.my_table3;

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);
  }
}
```

77

AndroidManifest.xml file

```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">

  <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.My_table3"
    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>

      <meta-data
        android:name="android.app.lib_name"
        android:value="" />
    </activity>
  </application>

</manifest>
```

build.gradle(:app)

```gradle
plugins {
  id 'com.android.application'
}

android {
  namespace 'com.example.my_table3'
  compileSdk 32

  defaultConfig {
    applicationId "com.example.my_table3"
    minSdk 21
    targetSdk 32
    versionCode 1
    versionName "1.0"

    testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"
```

78

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```
    }

    buildTypes {
        release {
            minifyEnabled false
            proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-rules.pro'
        }
    }
    compileOptions {
        sourceCompatibility JavaVersion.VERSION_1_8
        targetCompatibility JavaVersion.VERSION_1_8
    }
}

dependencies {

    implementation 'androidx.appcompat:appcompat:1.5.1'
    implementation 'com.google.android.material:material:1.7.0'
    implementation 'androidx.constraintlayout:constraintlayout:2.1.4'
    testImplementation 'junit:junit:4.13.2'
    androidTestImplementation 'androidx.test.ext:junit:1.1.4'
    androidTestImplementation 'androidx.test.espresso:espresso-core:3.5.0'
    implementation 'pl.droidsonroids.gif:android-gif-drawable:1.2.19'
}
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

OUTPUT
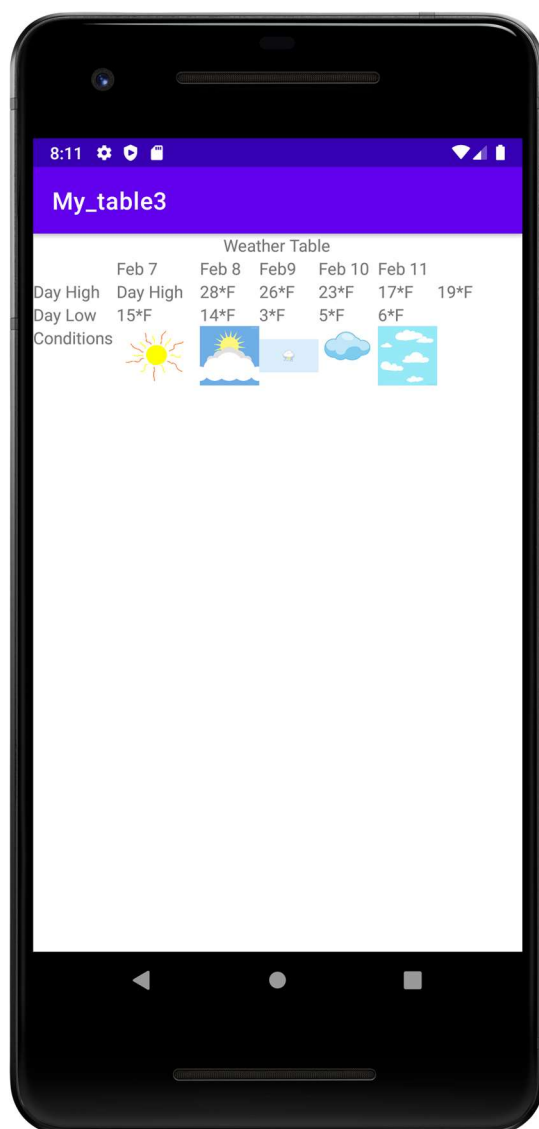
Problem Statement 21- Develop an android application to create an audio media player

Objective- To create media player

Activity_main.xml file

```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">

    <Button
        android:layout_width="132dp"
        android:layout_height="wrap_content"
        android:layout_marginStart="142dp"
        android:layout_marginTop="252dp"
        android:onClick="play"
        android:text="Start" />
    <Button
        android:layout_width="132dp"
        android:layout_height="wrap_content"
        android:text="Pause"
        android:layout_marginTop="302dp"
        android:layout_marginStart="142dp"
        android:onClick="pause"/>

    <Button
        android:layout_width="132dp"
        android:layout_height="wrap_content"
        android:text="Stop"
        android:layout_marginTop="345dp"
        android:layout_marginStart="142dp"
        android:onClick="stop"/>


</RelativeLayout>
```

MainActivity.java

```java
package com.example.my_mediaplayer;

import androidx.appcompat.app.AppCompatActivity;

import android.media.MediaPlayer;
import android.os.Bundle;
import android.view.View;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    MediaPlayer player;
```

81

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

    public void play(View v){
        if(player == null){
            player = MediaPlayer.create(this, R.raw.song);
            player.setOnCompletionListener(new MediaPlayer.OnCompletionListener() {
                @Override
                public void onCompletion(MediaPlayer mediaPlayer) {
                    stopPlayer();
                }
            });
        }
        player.start();
    }

    public void pause(View v){
        if (player != null) {
            player.pause();
        }
    }

    public void stop(View v){
        stopPlayer();
    }
    private void stopPlayer() {
        if(player !=null) {
            player.release();
            player =null;
            Toast.makeText(this, "MediaPlayer Stopped", Toast.LENGTH_SHORT).show();
        }
    }

    @Override
    protected void onStop() {
        super.onStop();
        stopPlayer();
    }
}
```

AndroidManifest.xml file

```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">

    <application
```

```xml
    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.My_MediaPlayer"
    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>

      <meta-data
        android:name="android.app.lib_name"
        android:value="" />
    </activity>
  </application>

</manifest>
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

OUTPUT

Problem Statement 22- Develop an android application to create an video media player

Objective- To create media player

Activity_main.xml file

```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">

    <VideoView
        android:id="@+id/v1"
        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>
```

MainActivity.java

```java
package com.example.my_videoplayer;

import androidx.appcompat.app.AppCompatActivity;

import android.net.Uri;
import android.os.Bundle;
import android.widget.MediaController;
import android.widget.VideoView;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        VideoView v2=findViewById(R.id.v1);
        String VideoPath="android.resource://"+getPackageName()+"/"+R.raw.banana;
        Uri uri= Uri.parse(VideoPath);
        v2.setVideoURI(uri);

        MediaController mc=new MediaController(this);
        v2.setMediaController(mc);
        mc.setAnchorView(v2);
    }
}
```

AndroidManifest.xml file

```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">

  <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.My_VideoPlayer"
    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>

      <meta-data
        android:name="android.app.lib_name"
        android:value="" />
    </activity>
  </application>

</manifest>
```
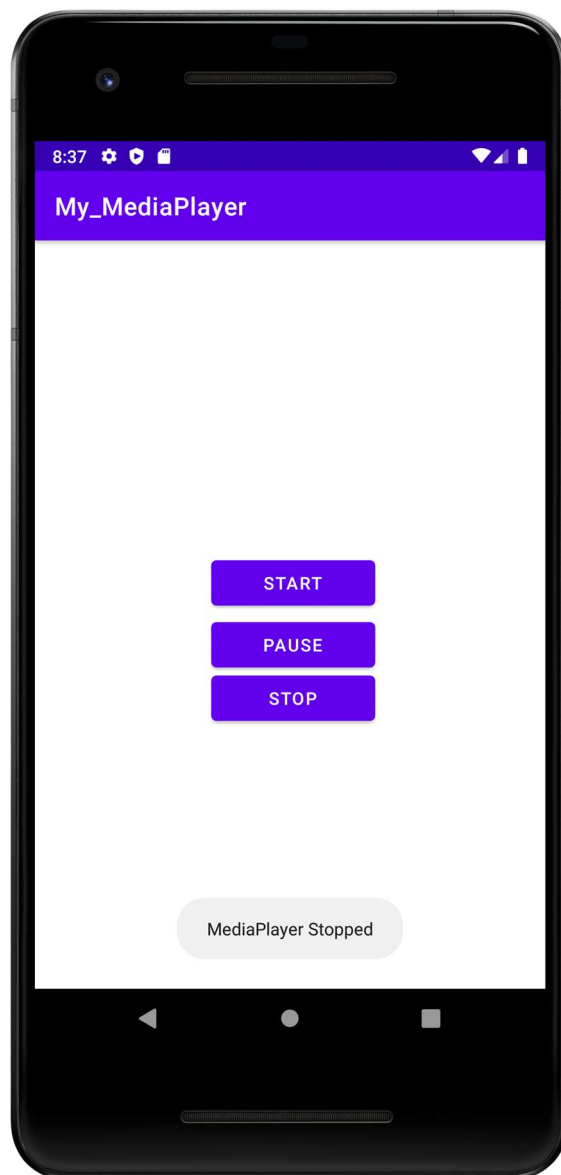
OUTPUT
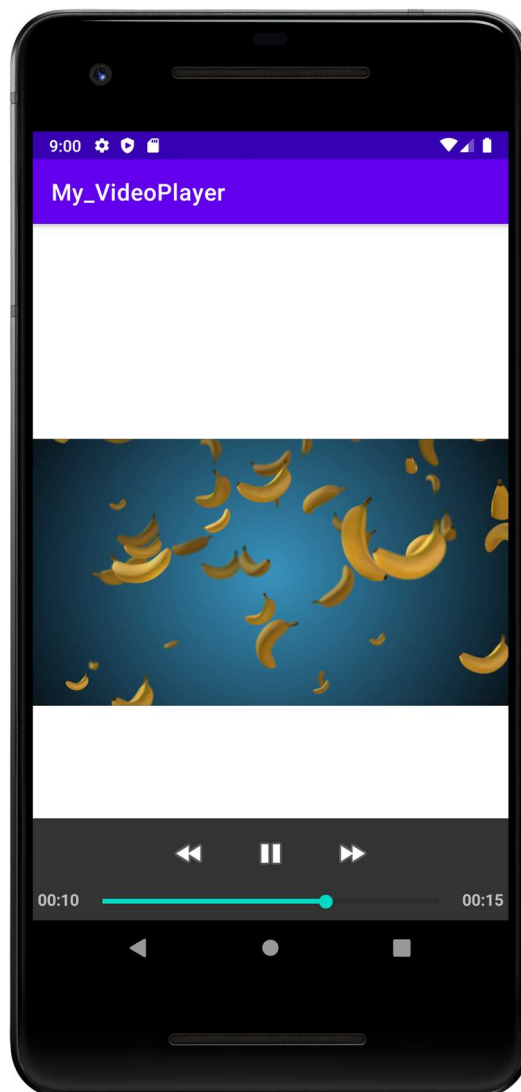
Problem Statement 23- Develop an android application to enlist all the inbuild sensors in a particular device

Objective- Enlisting all the inbuild sensors of a device

Activity_main.xml file

```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">

   <ListView
      android:id="@+id/l1"
      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>
```

MainActivity.java

```java
package com.example.my_sensordevice;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;
import android.hardware.Sensor;
import android.hardware.SensorManager;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.ListAdapter;
import android.widget.ListView;

import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity {
   ListView lv;
SensorManager sm;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      lv=findViewById(R.id.l1);
      List sensorList=new ArrayList<String>();
```

88

```java
    sm=((SensorManager) getSystemService(Context.SENSOR_SERVICE));
    List<Sensor> sensors=sm.getSensorList(Sensor.TYPE_ALL);

    for(Sensor i:sensors)
    {
      sensorList.add(i.getName());
    }
    ListAdapter sensorAdapter = new ArrayAdapter<String>(this,
        android.R.layout.simple_list_item_1, sensorList);
    lv.setAdapter(sensorAdapter);

    SensorManager sensorManager =  ((SensorManager) getSystemService(Context.SENSOR_SERVICE));
    if (sensorManager.getDefaultSensor(Sensor.TYPE_ACCELEROMETER) != null) {
      //Sensor is available - do something here
    }
  }
}
```

AndroidManifest.xml file

```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">

  <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.My_SensorDevice"
    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>

      <meta-data
        android:name="android.app.lib_name"
        android:value="" />
    </activity>
  </application>

</manifest>
```

OUTPUT
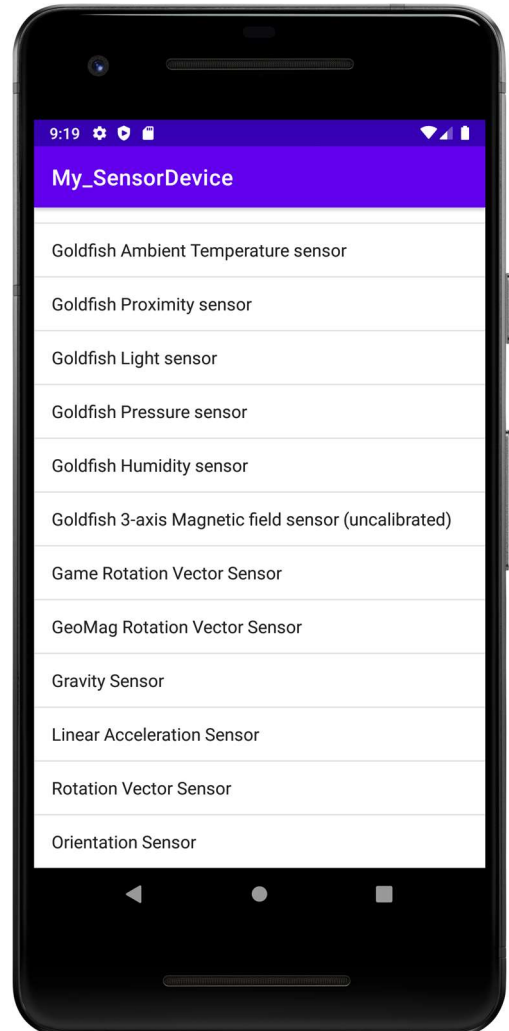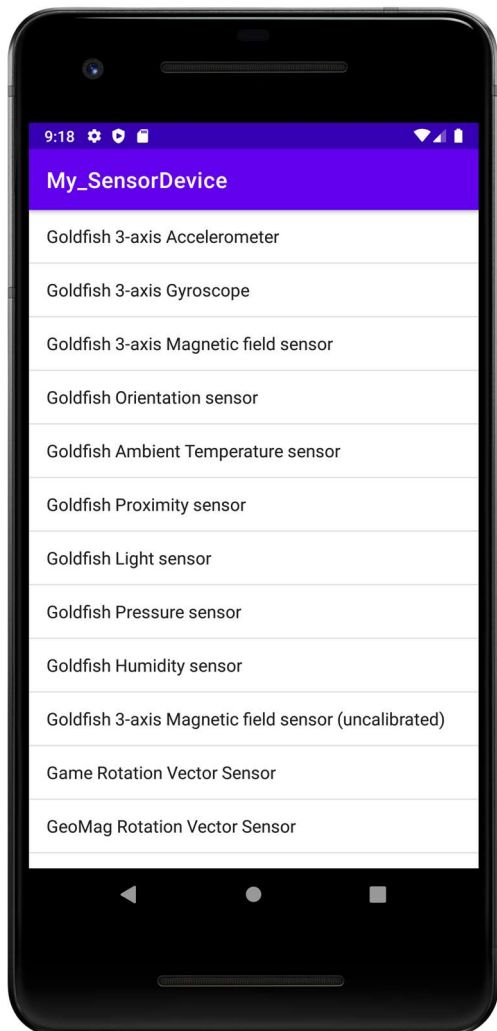
Problem Statement 24- Develop an android application to fetch contacts data and display it on your application

Objective- to fetch data from contacts application

Activity_main.xml file

```xml
<?xml version="1.0" encoding="utf-8"?>
<ScrollView 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="16sp"
  android:scrollbarSize="25sp"
  tools:context=".MainActivity">
  <RelativeLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical"
    android:padding="8dp"
    android:gravity="center_horizontal">

  <Button
    android:layout_width="100dp"
    android:layout_height="40dp"
    android:text="Press"
    android:id="@+id/b"
    android:onClick="Contacts"/>

  <TextView
   android:id="@+id/textview"
    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"
    android:layout_marginTop="50dp"
    />
  </RelativeLayout>
</ScrollView>
```

MainActivity.java

```java
package com.example.my_contacts;

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

```java
import android.Manifest;
import android.annotation.SuppressLint;
import android.content.ContentResolver;
import android.content.pm.PackageManager;
import android.database.Cursor;
import android.net.Uri;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.util.Log;
import android.view.View;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

  TextView t;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      t=findViewById(R.id.textview);


   }
   public void Contacts(View v)
   {
      getContacts();
   }
   private void getContacts(){
      StringBuffer sb=new StringBuffer();
      sb.append("......Contact Details......\n");
      if(ContextCompat.checkSelfPermission(this, Manifest.permission.READ_CONTACTS)!=
PackageManager.PERMISSION_GRANTED)
         ActivityCompat.requestPermissions(this, new String[]{Manifest.permission.READ_CONTACTS},0);
      ContentResolver cr=getContentResolver();
      Uri uri= ContactsContract.CommonDataKinds.Phone.CONTENT_URI;
      Cursor c=cr.query(uri,null,null,null,null);
      Log.i("msg", Integer.toString(c.getCount()));
      if(c.getCount()>0)
      {
         while(c.moveToNext())
         {
            @SuppressLint("Range") String
contactName=c.getString(c.getColumnIndex(ContactsContract.CommonDataKinds.Phone.DISPLAY_NAME)
);
            @SuppressLint("Range") String
contactNumber=c.getString(c.getColumnIndex(ContactsContract.CommonDataKinds.Phone.NUMBER));
            sb.append(contactName+" : ");
            sb.append(contactNumber+"\n");
         }
      }
      t.setText(sb);
```

92

  }
}

AndroidManifest.xml file

```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-permission android:name="android.permission.READ_CONTACTS"></uses-permission>
  <uses-permission android:name="android.permission.WRITE_CONTACTS"></uses-permission>
  <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.My_contacts"
    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>

      <meta-data
        android:name="android.app.lib_name"
        android:value="" />
    </activity>
  </application>

</manifest>
```
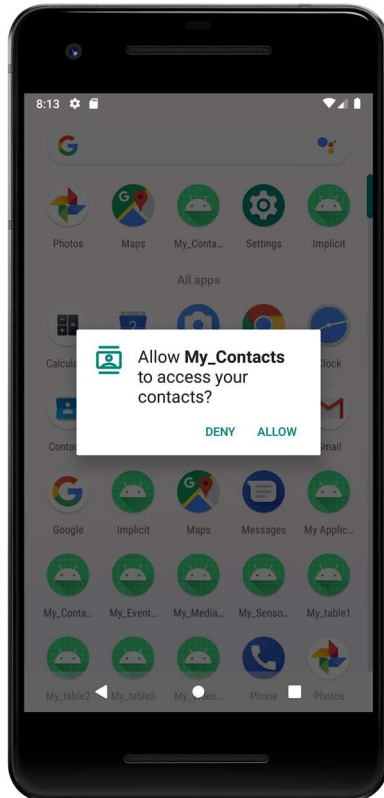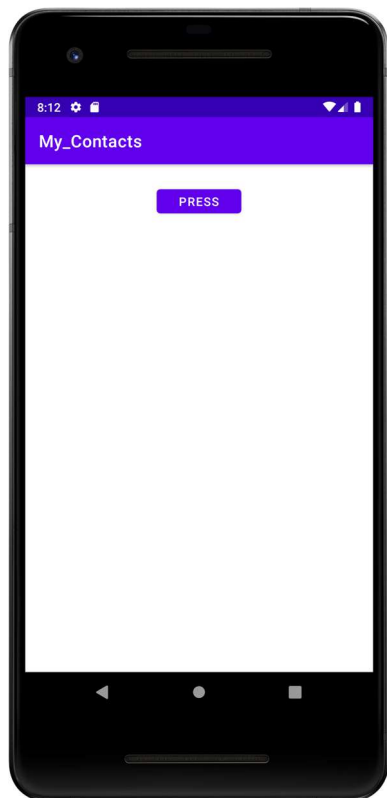
OUTPUT

Problem Statement 25- Develop an android application to insert, fetch and delete data from the database
Objective- to insert, fetch and delete data from the database

Activity_main.xml file

```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">

    <TextView
        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"
        android:id="@+id/tv1"/>
    <EditText
        android:layout_width="100dp"
        android:layout_height="50dp"
        android:layout_marginTop="50dp"
        android:layout_marginLeft="150dp"
        android:id="@+id/et1"
        android:hint="Name"
        android:inputType="text"
        android:layout_below="@+id/tv1"
        />

    <Button
        android:layout_width="150dp"
        android:layout_height="50dp"
        android:id="@+id/btn1"
        android:layout_marginLeft="120dp"
        android:layout_below="@+id/et1"
        android:text="Insert Data"/>

    <Button
        android:layout_width="150dp"
        android:layout_height="50dp"
        android:id="@+id/btn2"
        android:layout_marginLeft="120dp"
        android:layout_below="@+id/btn1"
        android:text="Fetch Data"/>

    <Button
        android:layout_width="150dp"
        android:layout_height="50dp"
        android:id="@+id/btn3"
        android:layout_marginLeft="120dp"
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```
     android:layout_below="@+id/btn2"
     android:text="Delete Data"/>

</RelativeLayout>
```

MainActivity.java

```java
package com.example.my_data;

import androidx.appcompat.app.AppCompatActivity;

import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
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 {
    Button b1, b2, b3;
    EditText e1;
    TextView t1;
    SQLiteDatabase db;
    String qry = "";
    Cursor c;
    String name = " ";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1 = findViewById(R.id.btn1);
        b2 = findViewById(R.id.btn2);
        b3 = findViewById(R.id.btn3);
        e1 = findViewById(R.id.et1);
        t1 = findViewById(R.id.tv1);

        db = openOrCreateDatabase("database", MODE_PRIVATE, null);
        db.execSQL("create table if not exists stud1(Name varchar(200) not null)");
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String qry="insert into stud1 values('"+e1.getText().toString()+"')";
                db.execSQL(qry);
                Toast.makeText(MainActivity.this, "Data inserted successfully", Toast.LENGTH_LONG).show();
            }
        });

        b2.setOnClickListener(new View.OnClickListener() {
```

96

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
Subject- Mobile Application Development   **Subcode-PBC 502**

```java
        @Override
        public void onClick(View view) {
            String qry = "select * from stud1";
            try {
               c = db.rawQuery(qry, null);
               int row = c.getCount();
               if (row == 0) {
                  Toast.makeText(MainActivity.this, "No data found", Toast.LENGTH_SHORT).show();
               } else {
                  Toast.makeText(MainActivity.this, "Data found", Toast.LENGTH_SHORT).show();
                  c.moveToNext();
                  name = c.getString(0);
                  t1.setText("Name=" + name);
               }
            } catch (Exception e) {
               Toast.makeText(MainActivity.this, "Error Occurred", Toast.LENGTH_LONG).show();
            }
         }
      });

    b3.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View view) {
          try {
             qry = "delete from stud1 where name=' " + e1.getText() + " ' ";
             db.execSQL(qry);
             Toast.makeText(MainActivity.this, "deleted", Toast.LENGTH_LONG).show();
          } catch (Exception e) {
             Toast.makeText(MainActivity.this, "not deleted", Toast.LENGTH_LONG).show();
          }
       }
     });
  }
}
```

<div align="center">

AndroidManifest.xml file

</div>

```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-permission android:name="android.permission.READ_CONTACTS"></uses-permission>
   <uses-permission android:name="android.permission.WRITE_CONTACTS"></uses-permission>
   <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.My_contacts"
```

```xml
        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>

            <meta-data
                android:name="android.app.lib_name"
                android:value="" />
        </activity>
    </application>

</manifest>
```

OUTPUT

Problem Statement 26- Develop an android application to implement Bluetooth Adapter class. Create three buttons and provide functionality as follows
1) On and Off the Bluetooth Adapter
2) Scanning for near by available devices
3) List out all the paired devices

Activity_main.xml file

```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">

  <Button
    android:id="@+id/ONN"
    android:layout_width="100dp"
    android:layout_height="70dp"
    android:layout_marginTop="100dp"
    android:text="ON"
    android:layout_marginLeft="30dp"/>

  <Button
    android:id="@+id/OFFF"
    android:layout_width="100dp"
    android:layout_height="70dp"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="100dp"
    android:text="OFF"
    android:layout_toRightOf="@+id/ONN"
    android:layout_marginLeft="30dp"/>

  <Button
    android:id="@+id/PD"
    android:layout_width="100dp"
    android:layout_height="70dp"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="100dp"
    android:text="Paired Devices"
    android:layout_toRightOf="@+id/OFFF"
    android:layout_marginLeft="30dp"/>

  <TextView
    android:id="@+id/tv"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="300dp"
```

Name – Gurpreet Kaur Jassal
Stdid-20042126/(55)   **Section-A**
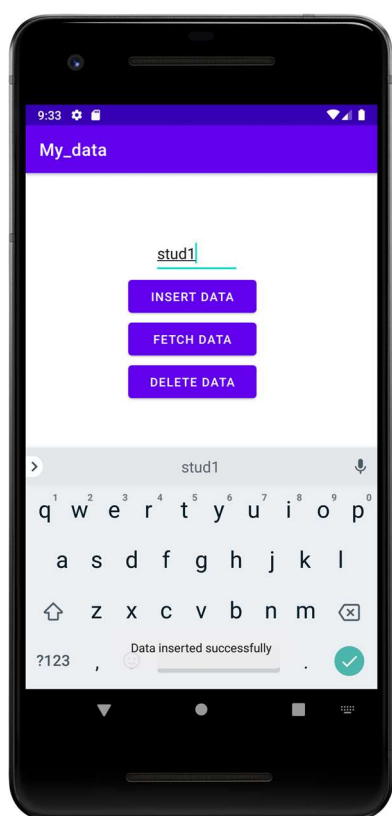**Subject- Mobile Application Development**   **Subcode-PBC 502**

```
    android:textSize="20dp"/>
</RelativeLayout>
```

MainActivity.java

```java
package com.example.mybluetoothadapter;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import android.Manifest;
import android.bluetooth.BluetoothAdapter;
import android.bluetooth.BluetoothDevice;
import android.content.Intent;
import android.content.pm.PackageManager;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import java.util.Set;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button btOn, btOff, btPd;
        TextView tv;

        btOn = findViewById(R.id.ONN);
        btOff = findViewById(R.id.OFFF);
        btPd = findViewById(R.id.PD);
        tv = findViewById(R.id.tv);
        BluetoothAdapter ba = BluetoothAdapter.getDefaultAdapter();

        btOn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                if (!ba.isEnabled()) {
                    Intent i = new Intent(ba.ACTION_REQUEST_ENABLE);
                    if (ActivityCompat.checkSelfPermission(MainActivity.this,
Manifest.permission.BLUETOOTH_CONNECT) != PackageManager.PERMISSION_GRANTED) {
                    }

                    startActivity(i);
                    tv.setText("Active");
                } else {
                    tv.setText("Active");
                }
            }
```

101

```java
    });

    btOff.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            if (ActivityCompat.checkSelfPermission(MainActivity.this,
Manifest.permission.BLUETOOTH_CONNECT) != PackageManager.PERMISSION_GRANTED) {
            }
            ba.disable();
            tv.setText("Disabled");
        }
    });

    btPd.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            if (ActivityCompat.checkSelfPermission(MainActivity.this,
Manifest.permission.BLUETOOTH_CONNECT) != PackageManager.PERMISSION_GRANTED) {
            }
            Set<BluetoothDevice> pairedDevices = ba.getBondedDevices();
            if (pairedDevices.size() > 0) {
                for (BluetoothDevice device : pairedDevices) {
                    String deviceName = device.getName();
                    tv.append(deviceName + "\n");
                }
            }
        }
    });
  }
}
```

AndroidManifest.xml file

```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-permission android:name="android.permission.BLUETOOTH"></uses-permission>
    <uses-permission android:name="android.permission.BLUETOOTH_CONNECT"></uses-permission>
    <uses-permission android:name="android.permission.BLUETOOTH_ADMIN"></uses-permission>
    <uses-permission android:name="android.permission.BLUETOOTH_SCAN"></uses-permission>

    <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.MyBluetoothAdapter"
        tools:targetApi="31">
```

102

```xml
    <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>

      <meta-data
        android:name="android.app.lib_name"
        android:value="" />
    </activity>
  </application>

</manifest>
```

OUTPUT

My Bluetooth Adapter	**My Bluetooth Adapter**	**My Bluetooth Adapter**
ON OFF PAIRED DEVICES	ON OFF PAIRED DEVICES	ON OFF PAIRED DEVICES
Active	Disabled	DisabledboAt Stone 650

Third screen device list:

DisabledboAt Stone 650
Redmi
realme Buds Q2 TWS
JBL GO
Infinity FUZE 100
Noise Buds VS303
Airdopes 131
pTron Bassbuds Lite
Mivi DuoPods M80
OPPO Enco Buds
Mivi DuoPods M80
OnePlus Buds Z
boAt Rockerz 400