PRACTICAL NO.: 01

Exercise: Create android application to demonstrate various UI components. activity main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout width="match parent"
    android:layout height="match parent"
    android:background="#F9D3FF"
    tools:context=".MainActivityP">
    <EditText
        android:id="@+id/n1"
        android:layout width="282dp"
        android:layout height="66dp"
        android:layout marginBottom="76dp"
        android:autofillHints=""
        android:ems="10"
        android:hint="@string/enter first number"
        android:inputType="number"
        android:textColor="@color/black"
        android:textColorHighlight="#1329A8"
        android:textColorHint="#13268E"
        android:textColorLink="#102FD6"
        android:textStyle="bold"
        app:layout constraintBottom toTopOf="@+id/n2"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.496"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent"
        app:layout constraintVertical bias="1.0"
        tools:ignore="MissingConstraints" />
    <EditText
        android:id="@+id/n2"
        android:layout width="272dp"
        android:layout height="58dp"
        android:layout marginBottom="76dp"
        android:autofillHints=""
        android:ems="10"
        android:hint="@string/enter second number"
        android:inputType="number"
        android:textColor="@color/black"
        android:textColorHighlight="#1429A1"
        android:textColorHint="#0D26AF"
        android:textColorLink="#0E228E"
        android:textStyle="bold"
        app:layout_constraintBottom toTopOf="@+id/b1"
        app:layout_constraintEnd toEndOf="parent"
        app:layout_constraintHorizontal bias="0.425"
        app:layout constraintStart toStartOf="parent"
        tools:ignore="MissingConstraints" />
    <But.ton
        android:id="@+id/b1"
        android:layout width="127dp"
```

```
android:layout height="59dp"
   android:layout marginBottom="44dp"
   android:backgroundTint="#CA43E1"
   android:text="@string/addition"
   android:textColor="#000000"
   android:textColorHighlight="#4CAF50"
   android:textColorLink="#2CBC32"
   app:layout_constraintBottom_toBottomOf="parent"
   app:layout_constraintEnd toEndOf="parent"
   app:layout_constraintHorizontal bias="0.144"
   app:layout_constraintStart_toStartOf="parent"
   app:layout_constraintTop toTopOf="parent"
   app:layout constraintVertical bias="0.638"
   tools:ignore="MissingConstraints" />
<TextView
   android:id="@+id/text"
   android:layout width="159dp"
   android:layout height="50dp"
   android:layout_marginBottom="104dp"
   android:textColor="@color/black"
   android:textColorHighlight="@color/black"
   android:textColorHint="@color/black"
   android:textColorLink="#0B2AD3"
   app:layout constraintBottom toBottomOf="parent"
   app:layout constraintEnd toEndOf="parent"
   app:layout constraintHorizontal bias="0.557"
   app:layout constraintStart toStartOf="parent"
   tools:ignore="MissingConstraints" />
<Button
   android:id="@+id/bsub"
   android:layout width="135dp"
   android:layout height="62dp"
   android:backgroundTint="#E28AF1"
   android:text="@string/substration"
   android:textColor="#5D4037"
   app:layout constraintBottom toBottomOf="parent"
   app:layout constraintEnd toEndOf="parent"
   app:layout constraintHorizontal bias="0.731"
   app:layout constraintStart toStartOf="parent"
   app:layout constraintTop toTopOf="parent"
   app:layout constraintVertical bias="0.599" />
<Button
   android:id="@+id/bmul"
   android:layout width="134dp"
   android:layout height="63dp"
   android:backgroundTint="#E294EF"
   android:text="@string/multi"
   android:textColor="#5E35B1"
   app:layout constraintBottom toBottomOf="parent"
   app:layout constraintEnd toEndOf="parent"
   app:layout constraintHorizontal bias="0.148"
   app:layout constraintStart toStartOf="parent"
   app:layout constraintTop toTopOf="parent"
   app:layout_constraintVertical bias="0.723" />
<But.ton
   android:id="@+id/bdiv"
   android:layout width="144dp"
```

```
android:layout height="66dp"
         android:backgroundTint="#D638DC"
         android:text="@string/division"
         android:textColor="#3E2723"
         app:layout_constraintBottom toBottomOf="parent"
         app:layout_constraintEnd_toEndOf="parent"
         app:layout_constraintHorizontal bias="0.722"
         app:layout_constraintStart_toStartOf="parent"
         app:layout_constraintTop_toTopOf="parent"
         app:layout constraintVertical bias="0.726" />
    <ImageView</pre>
         android:id="@+id/imageView"
         android:layout width="82dp"
         android:layout_height="77dp"
         android:contentDescription="@string/todo"
        app:layout_constraintBottom toBottomOf="parent"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.498"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent"
        app:layout constraintVertical bias="0.074"
        app:srcCompat="@mipmap/ic launcher"
         tools:ignore="MissingConstraints" />
</androidx.constraintlayout.widget.ConstraintLayout>
MainActivityP.java
package com.example.myfirstapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
import android.os.Bundle;
import android.view.Gravity;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivityP extends AppCompatActivity {
 TextView text;
 EditText n1, n2;
 Button b1, bsub, bmul, bdiv;
 @SuppressLint("MissingInflatedId")
 @Override
 protected void onCreate(Bundle savedInstanceState) {
   super.onCreate(savedInstanceState);
   setContentView(R.layout.activity_main);
   //Toast - display popup message
   Toast t = Toast.makeText(this, "Good Morning!", Toast.LENGTH SHORT);
```

```
t.setGravity(Gravity.BOTTOM | Gravity.CENTER, 0, 0);
t.show();
text = findViewById(R.id.text);
n1 = findViewById(R.id.n1);
n2 = findViewById(R.id.n2);
b1 = findViewById(R.id.b1);
bsub = findViewById(R.id.bsub);
bmul = findViewById(R.id.bmul);
bdiv = findViewById(R.id.bdiv);
b1.setOnClickListener(View ->{
  int sum = Integer.parseInt(n1.getText().toString()) + Integer.parseInt(n2.getText().toString());
  text.setText("Result is: "+sum);
});
bsub.setOnClickListener(View ->{
  int sub = Integer.parseInt(n1.getText().toString()) - Integer.parseInt(n2.getText().toString());
  text.setText("Result is: "+sub);
});
bmul.setOnClickListener(View->{
  int mul = Integer.parseInt(n1.getText().toString()) * Integer.parseInt(n2.getText().toString());
  text.setText("Result is: "+mul);
});
bdiv.setOnClickListener(View -> {
  float div = Float.parseFloat(n1.getText().toString()) / Float.parseFloat(n2.getText().toString());
  text.setText("Result is: "+div);
});
```

Output:-

}



