

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
    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" />

    <Button
        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" />

```

```

<Button
    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
    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;
    @SuppressWarnings("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:-



Enter First Number

Enter Second Number

Addition

Subtraction

Multiplication

Division

Calls and notifications will vibrate



6

9

Addition

Subtraction

Multiplication

Division

Result is: -3



6

9

Addition

Subtraction

Multiplication

Division

Result is: 0.666667



2

25

Addition

Subtraction

Multiplication

Division

Result is: 27



6

9

Addition

Subtraction

Multiplication

Division

Result is: 54

