

- **Output:**

MAD_Practicals

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Bluetooth Connection

Bluetooth Connection

ON

OFF

Bluetooth is :On

Bluetooth is :Off

X.2

- **Program:**
- **XML File**

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

```

xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">
<Button
    android:id="@+id/sub"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:text="-"
    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="0.625" />
<Button
    android:id="@+id/Mul"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:text="*"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.492"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.736" />
<Button
    android:id="@+id/Div"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:text="/"
    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="0.844" />

<TextView
    android:id="@+id/n3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Result :"
    android:textColor="#040101"
    android:textSize="16sp"

```

```
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.298"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.407" />
```

<EditText

```
android:id="@+id/t2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:ems="10"
android:inputType="number"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.92"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.281" />
```

<TextView

```
android:id="@+id/n2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Enter Second Number"
android:textColor="#040101"
android:textSize="16sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.062"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.289" />
```

<TextView

```
android:id="@+id/ti"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Calculator"
android:textStyle="bold|italic"
android:textColor="#090303"
android:textSize="30sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
```

```
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.06" />
```

```
<TextView
    android:id="@+id/n1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Enter First Number"
    android:textColor="#040101"
    android:textSize="16sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.057"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.159" />
```

```
<EditText
    android:id="@+id/t1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="number"
    android:minHeight="48dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.92"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.147" />
```

```
<Button
    android:id="@+id/add"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:text="+"
    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="0.519" />
```

```
<TextView
    android:id="@+id/ans"
```

```

        android:layout_width="59dp"
        android:layout_height="33dp"
        android:text="Ans"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.534"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.414" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

- **JAVA File**

```

package com.example.mad_practicals;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    EditText t1 , t2;
    Button add ,Mul ,Div ,sub;
    TextView answer;
    double ans = 0;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1 = findViewById(R.id.t1);
        t2 = findViewById(R.id.t2);
        add = findViewById(R.id.add);
        Mul = findViewById(R.id.Mul);
        Div = findViewById(R.id.Div);
        sub = findViewById(R.id.sub);
        answer = findViewById(R.id.ans);
        add.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String num1 = t1.getText().toString();
                String num2 = t2.getText().toString();
                if (num1.isEmpty() || num2.isEmpty()) {

```

```

        Toast.makeText(getApplicationContext(),"Enter
Numbers",Toast.LENGTH_SHORT).show();
    }
    else {
        double a =
            Double.parseDouble(t1.getText().toString());
        double b =
            Double.parseDouble(t2.getText().toString());
        ans = a + b;
        String ans1 = String.valueOf(ans);
        answer.setText(ans1);
        ans= 0;
        Toast.makeText(getApplicationContext(),"Addition
Performed",Toast.LENGTH_SHORT).show();
    }
}
});
sub.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String num1 = t1.getText().toString();
        String num2 = t2.getText().toString();
        if (num1.isEmpty() || num2.isEmpty()) {
            Toast.makeText(getApplicationContext(),"Enter
Numbers",Toast.LENGTH_SHORT).show();
        }
        else {
            double a =
                Double.parseDouble(t1.getText().toString());
            double b =
                Double.parseDouble(t2.getText().toString());
            ans = a - b;
            String ans1 = String.valueOf(ans);
            answer.setText(ans1);
            ans= 0;
            Toast.makeText(getApplicationContext(),"Subtraction
Performed",Toast.LENGTH_SHORT).show();
        }
    }
});
Mul.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String num1 = t1.getText().toString();
        String num2 = t2.getText().toString();

```

```

        if (num1.isEmpty() || num2.isEmpty()) {
            Toast.makeText(getApplicationContext(),"Enter
Numbers",Toast.LENGTH_SHORT).show();
        }
        else {
            double a =
                Double.parseDouble(t1.getText().toString());
            double b =
                Double.parseDouble(t2.getText().toString());
            ans = a * b;
            String ans1 = String.valueOf(ans);
            answer.setText(ans1);
            ans= 0;

            Toast.makeText(getApplicationContext(),"Multiplication
Performed",Toast.LENGTH_SHORT).show();
        }
    });
    Div.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String num1 = t1.getText().toString();
            String num2 = t2.getText().toString();
            if (num1.isEmpty() || num2.isEmpty()) {
                Toast.makeText(getApplicationContext(), "Enter Numbers",
Toast.LENGTH_SHORT).show();
            }
            else {
                double a =
                    Double.parseDouble(t1.getText().toString());
                double b =
                    Double.parseDouble(t2.getText().toString());
                if (b != 0) {
                    ans = a / b;
                    String ans1 = String.valueOf(ans);
                    answer.setText(ans1);
                    ans= 0;
                    Toast.makeText(getApplicationContext(),"Division
Performed",Toast.LENGTH_SHORT).show();
                }
                else
                    Toast.makeText(getApplicationContext(),
                        "Enter Valid Numbers", Toast.LENGTH_SHORT).show();
            }
        }
    });
}

```

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

- **Output:**

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Calculator

Enter First Number

Enter Second Number

Result : 30.0

+

-

*

Addition Performed

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Calculator

Enter First Number

Enter Second Number

Result : -10.0

+

-

*

Subtraction Performed

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Calculator

Enter First Number

Enter Second Number

Result : 200.0

+

-

*

Multiplication Performed

Calculator

Enter First Number

Enter Second Number

Result : 0.5

+

-

*

Division Performed