

1. HelloWorld! Program

Mainactivity.kt

```
package com.example.myapplication

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle

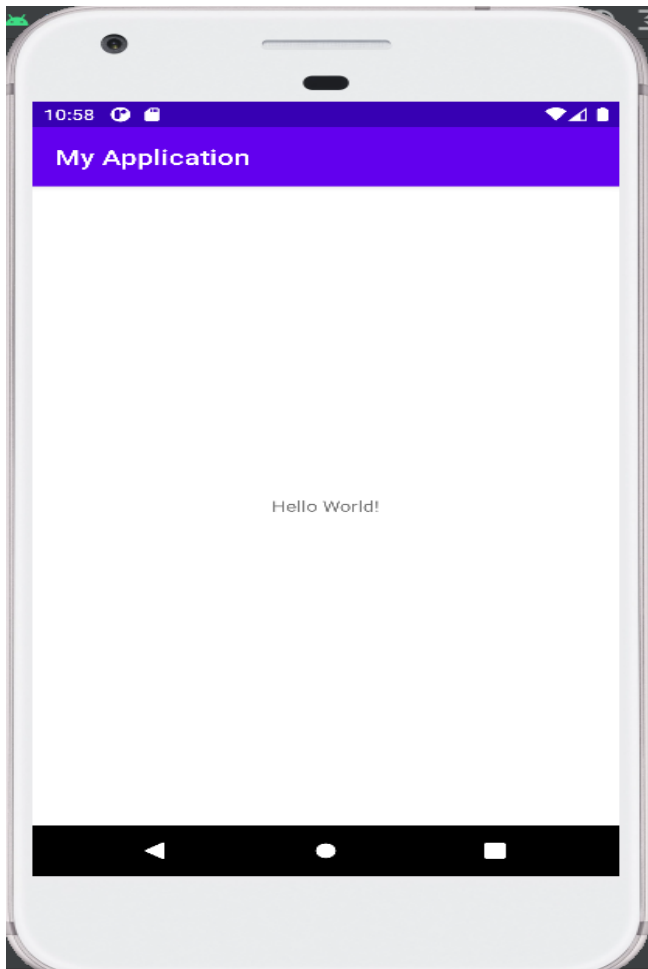
class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }
}
```

Activity_main.xml

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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



2. Develop an android mobile application to display your details (use of font colors, size, style...)

Activity_main.xml

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="name : Jinsa Joy"
        android:textColor="@color/purple_200"
```

```
android:textSize="25dp"
android:textStyle="bold"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintHorizontal_bias="0.483"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.261" />
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="class: s3 MCA"
    android:textAppearance="@style/TextAppearance.AppCompat.Display1"
    android:textColor="@color/design_default_color_error"
    android:textSelectHandleLeft="@drawable/ic_launcher_background"
    android:textStyle="italic"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintHorizontal_bias="0.459"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.36" />
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:background="#0BE45B"
    android:backgroundTint="#CDDC39"
    android:text="roll no : 34 "
    android:textColorHighlight="@color/purple_500"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintHorizontal_bias="0.456"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.477" />
```

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

```
mainactivity.ky
```

```
package com.example.program2
```

```
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }
}
```



3. Develop an android mobile application to display some QA in text boxes when a button event occurs. Set some questions in TextViews, display corresponding answers when a Button click event happens.

Activity_main.xml

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

```
<TextView
    android:id="@+id/qn1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="what is the full form of AVD"
    android:textSize="20dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.126" />
```

```
<Button
    android:id="@+id/btn1"
    android:layout_width="150dp"
    android:layout_height="40dp"
    android:layout_below="@+id/qn1"
    android:text="Answer"
    android:textSize="10dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.201" />
```

```
<TextView
    android:id="@+id/answer1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/btn1"
    android:text=" "
```

```
android:textColor="@color/black"
android:textSize="20dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintHorizontal_bias="0.0"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.285" />
```

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

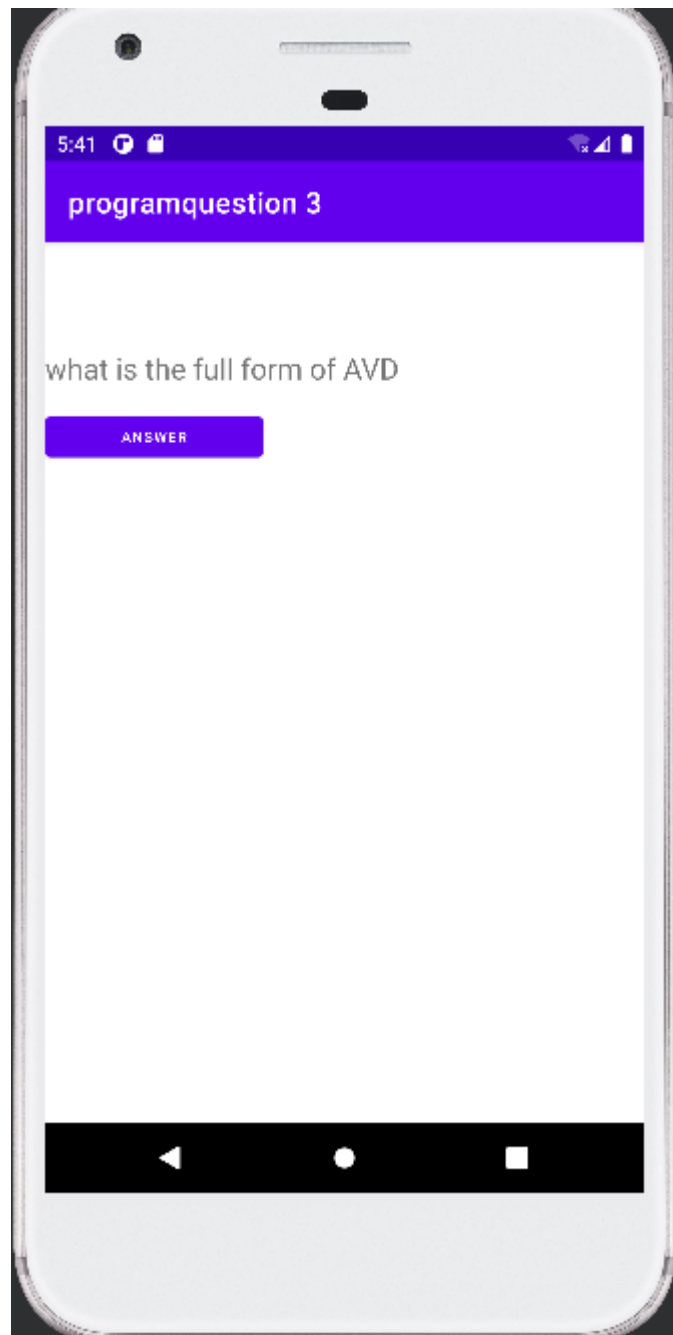
mainActivity.java

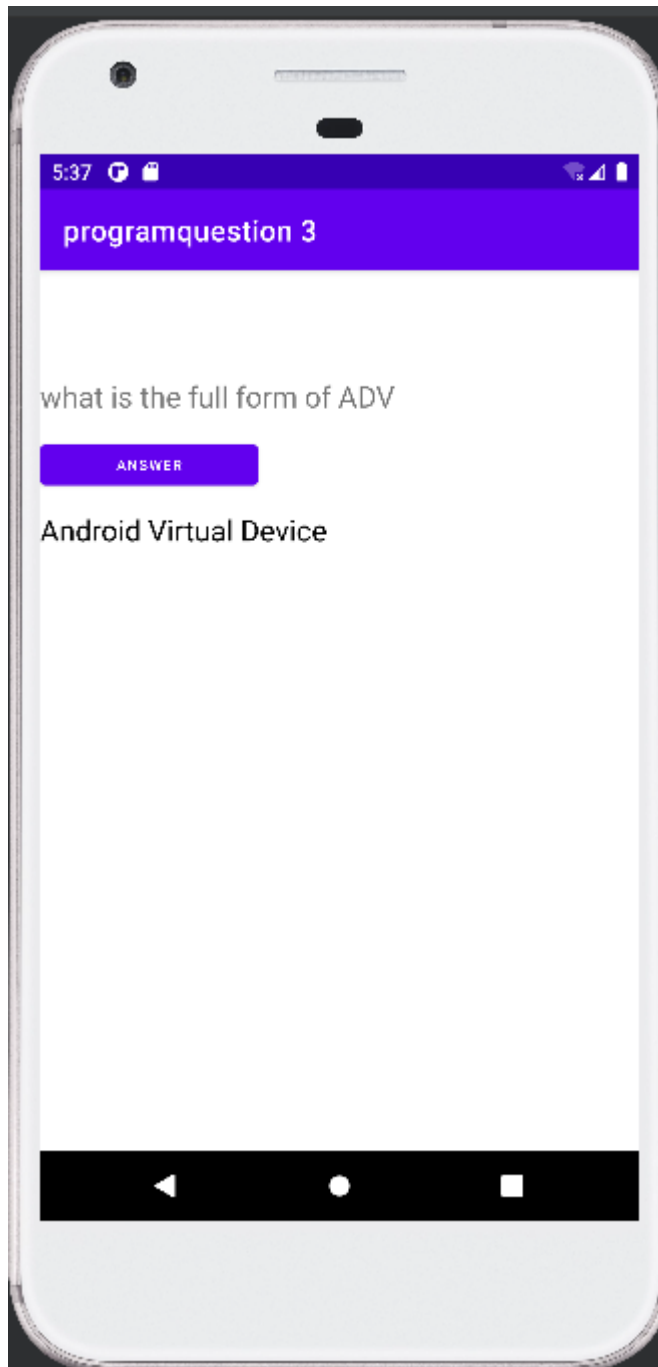
```
package com.example.programquestion3;
```

```
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    TextView answer1;
    Button btn1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        answer1=(TextView) findViewById(R.id.answer1);

        btn1 = (Button) findViewById(R.id.btn1);

        btn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                answer1.setText("Android Virtual Device");
            }
        });
    }
}
```





4. Develop an android mobile application which accepts a string via editText and Toast it.

Activity_main.xml

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



```

tools:context=".MainActivity">
<EditText
    android:id="@+id/string"
    android:layout_width="350dp"
    android:layout_height="wrap_content"
    android:hint="Enter a String"
    android:textSize="20dp"
    android:layout_marginLeft="20dp"
    android:layout_marginTop="150dp"/>

<Button
    android:id="@+id/btn1"
    android:layout_width="150dp"
    android:layout_height="40dp"
    android:layout_below="@+id/string"
    android:layout_marginLeft="50dp"
    android:layout_marginTop="30dp"
    android:backgroundTint="@color/purple_200"
    android:text="Click"
    android:textSize="10dp" />
</RelativeLayout>

```

MainActivity.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.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    EditText string;
    Button btn1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        string = (EditText) findViewById(R.id.string);
        btn1 = (Button) findViewById(R.id.btn1);
        btn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String name = string.getText().toString();
                if(name.length()!=0) {
// If name or password is not entered

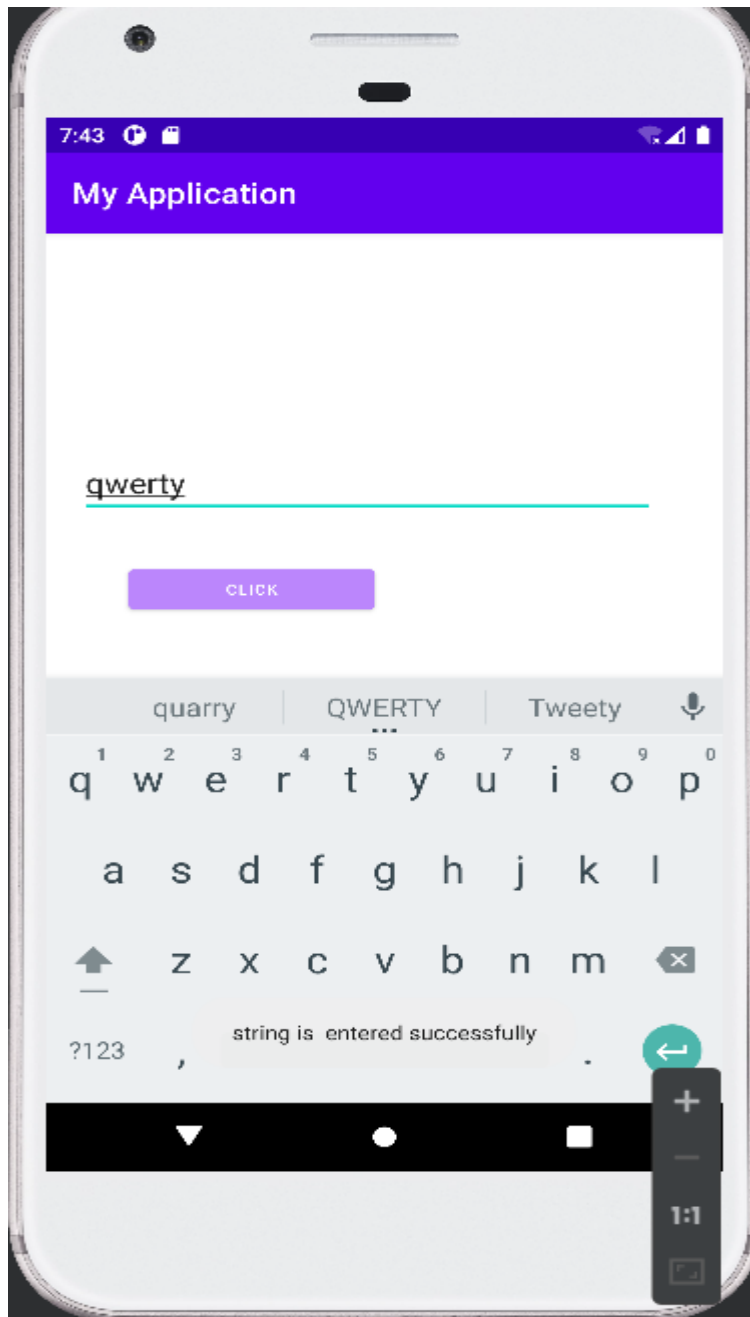
```

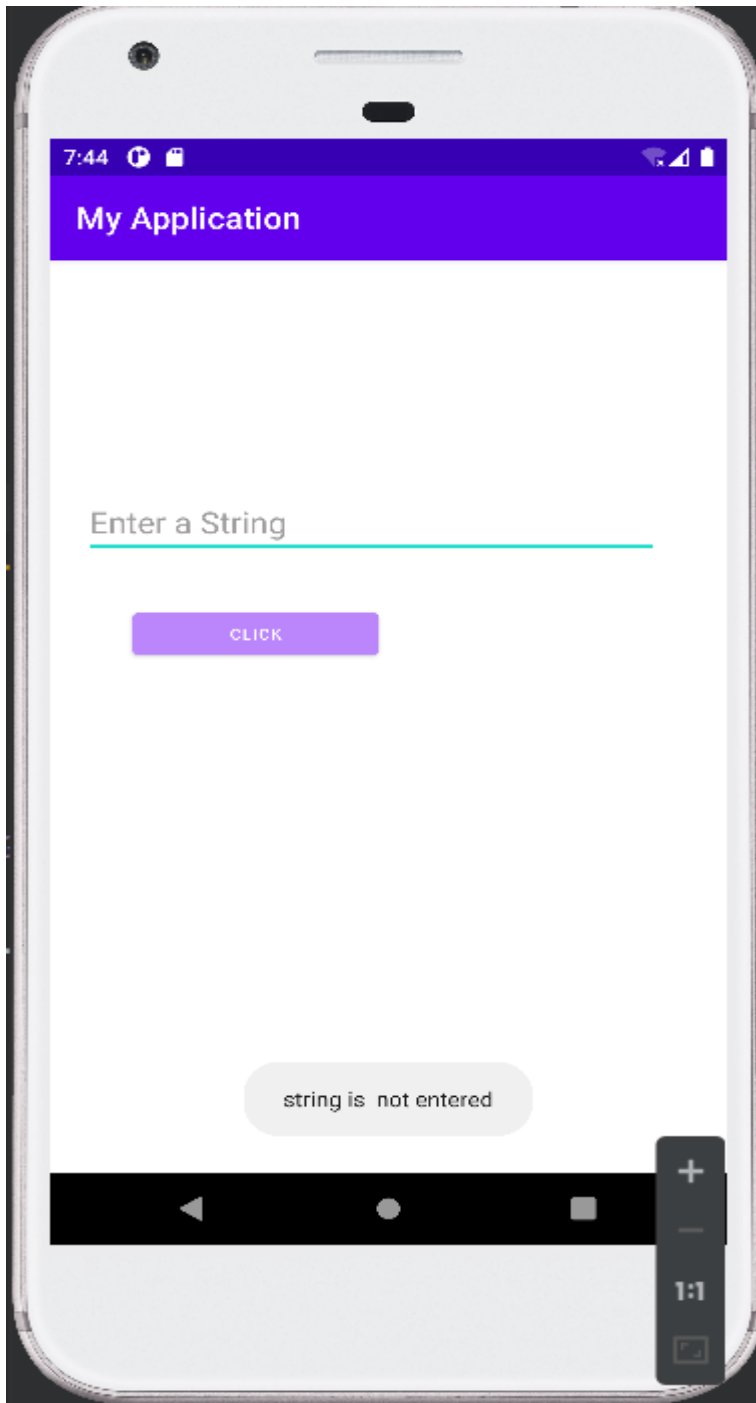
```

        Toast.makeText(getApplicationContext(), "string is entered successfully",
        Toast.LENGTH_LONG).show();
    }else {
        Toast.makeText(getApplicationContext(), "string is not entered",
        Toast.LENGTH_LONG).show();
    }
    });
}
}

```

Output:





5. Develop an android mobile application to perform calculator functions. Accept inputs from GUI.

Activity_main.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"
android:background="#ecf0f1"
android:orientation="vertical"
tools:context="com.example.calc.MainActivity">
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="0.3"
    android:orientation="horizontal">
    <TextView
        android:id="@+id/display"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:background="#ecf0f1"
        android:textSize="30sp" />
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="0.2"
    android:orientation="horizontal">
    <Button
        android:id="@+id/buttonDel"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_margin="1dp"
        android:layout_weight="0.25"
        android:text="clear"
        android:textColor="@color/black"
        android:textSize="20sp" />
    <Button
        android:id="@+id/buttoneql"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_margin="1dp"
        android:layout_weight="0.25"
        android:text="="
        android:textColor="@color/black"
        android:textSize="30sp" />
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="0.2"
    android:orientation="horizontal">
    <Button
        android:id="@+id/button1"

```

```

        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_margin="1dp"
        android:layout_weight="0.25"
        android:text="1"
        android:textColor="@color/black"
        android:textSize="20sp" />
<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_margin="1dp"
    android:layout_weight="0.25"
    android:text="2"
    android:textColor="@color/black"
    android:textSize="20sp" />
<Button
    android:id="@+id/button3"
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_margin="1dp"
    android:layout_weight="0.25"
    android:text="3"
    android:textColor="@color/black"
    android:textSize="20sp" />
<Button
    android:id="@+id/buttondiv"
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_margin="1dp"
    android:layout_weight="0.25"
    android:text="/"
    android:textColor="@color/black"
    android:textSize="30sp" />
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="0.2"
    android:orientation="horizontal">
    <Button
        android:id="@+id/button4"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_margin="1dp"
        android:layout_weight="0.25"
        android:text="4"
        android:textColor="@color/black"

```

```

        android:textSize="20sp" />
<Button
    android:id="@+id/button5"
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_margin="1dp"
    android:layout_weight="0.25"
    android:text="5"
    android:textColor="@color/black"
    android:textSize="20sp" />
<Button
    android:id="@+id/button6"
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_margin="1dp"
    android:layout_weight="0.25"
    android:text="6"
    android:textColor="@color/black"
    android:textSize="20sp" />
<Button
    android:id="@+id/buttonsub"
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_margin="1dp"
    android:layout_weight="0.25"
    android:text="-"
    android:textColor="@color/black"
    android:textSize="30sp" />
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="0.2"
    android:orientation="horizontal">
    <Button
        android:id="@+id/button7"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_margin="1dp"
        android:layout_weight="0.25"
        android:text="7"
        android:textColor="@color/black"
        android:textSize="20sp" />
    <Button
        android:id="@+id/button8"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_margin="1dp"

```

```

        android:layout_weight="0.25"
        android:text="8"
        android:textColor="@color/black"
        android:textSize="20sp" />
<Button
    android:id="@+id/button9"
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_margin="1dp"
    android:layout_weight="0.25"
    android:text="9"
    android:textColor="@color/black"
    android:textSize="20sp" />
<Button
    android:id="@+id/buttonmul"
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_margin="1dp"
    android:layout_weight="0.25"
    android:text="*"
    android:textColor="@color/black"
    android:textSize="30sp" />
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_weight="0.2"
    android:orientation="horizontal">
    <Button
        android:id="@+id/buttonDot"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_margin="1dp"
        android:layout_weight="0.25"
        android:text="."
        android:textColor="@color/black"
        android:textSize="20sp" />
    <Button
        android:id="@+id/button0"
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_margin="1dp"
        android:layout_weight="0.25"
        android:textColor="@color/black"
        android:text="0"
        android:textSize="20sp" />
    <Button
        android:id="@+id/Remainder"

```

```

        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_margin="1dp"
        android:layout_weight="0.25"
        android:textColor="@color/black"
        android:text="%"
        android:textSize="30sp" />
<Button
    android:id="@+id/buttonadd"
    android:layout_width="wrap_content"
    android:layout_height="match_parent"
    android:layout_margin="1dp"
    android:layout_weight="0.25"
    android:text="+"
    android:textColor="@color/black"
    android:textSize="30sp" />
</LinearLayout>
</LinearLayout>

</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java

```

package com.example.calculator;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    double input1 = 0, input2 = 0;
    TextView edt1;
    boolean Addition, Subtract, Multiplication, Division, mRemainder, decimal;
    Button button0, button1, button2, button3, button4, button5, button6,
        button7, button8, button9, buttonAdd, buttonSub,
        buttonMul, buttonDivision, buttonEqual, buttonDel, buttonDot,
        Remainder;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        button0 = (Button) findViewById(R.id.button0);
        button1 = (Button) findViewById(R.id.button1);
        button2 = (Button) findViewById(R.id.button2);
        button3 = (Button) findViewById(R.id.button3);
        button4 = (Button) findViewById(R.id.button4);
    }
}

```



```

button5 = (Button) findViewById(R.id.button5);
button6 = (Button) findViewById(R.id.button6);
button7 = (Button) findViewById(R.id.button7);
button8 = (Button) findViewById(R.id.button8);
button9 = (Button) findViewById(R.id.button9);
buttonDot = (Button) findViewById(R.id.buttonDot);
buttonAdd = (Button) findViewById(R.id.buttonadd);
buttonSub = (Button) findViewById(R.id.buttonsub);
buttonMul = (Button) findViewById(R.id.buttonmul);
buttonDivision = (Button) findViewById(R.id.buttondiv);
Remainder = (Button) findViewById(R.id.Remainder);
buttonDel = (Button) findViewById(R.id.buttonDel);
buttonEqual = (Button) findViewById(R.id.buttoneq);
edt1 = (TextView) findViewById(R.id.display);
button1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        edt1.setText(edt1.getText() + "1");
    }
});
button2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        edt1.setText(edt1.getText() + "2");
    }
});
button3.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        edt1.setText(edt1.getText() + "3");
    }
});
button4.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        edt1.setText(edt1.getText() + "4");
    }
});
button5.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        edt1.setText(edt1.getText() + "5");
    }
});
button6.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        edt1.setText(edt1.getText() + "6");
    }
});

```

```

    }
});
button7.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        edt1.setText(edt1.getText() + "7");
    }
});
button8.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        edt1.setText(edt1.getText() + "8");
    }
});
button9.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        edt1.setText(edt1.getText() + "9");
    }
});
button0.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        edt1.setText(edt1.getText() + "0");
    }
});
buttonAdd.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if (edt1.getText().length() != 0) {
            input1 = Float.parseFloat(edt1.getText() + "");
            Addition = true;
            decimal = false;
            edt1.setText(null);
        }
    }
});
buttonSub.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if (edt1.getText().length() != 0) {
            input1 = Float.parseFloat(edt1.getText() + "");
            Subtract = true;
            decimal = false;
            edt1.setText(null);
        }
    }
});

```

```

buttonMul.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if (edt1.getText().length() != 0) {
            input1 = Float.parseFloat(edt1.getText() + "");
            Multiplication = true;
            decimal = false;
            edt1.setText(null);
        }
    }
});
buttonDivision.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if (edt1.getText().length() != 0) {
            input1 = Float.parseFloat(edt1.getText() + "");
            Division = true;
            decimal = false;
            edt1.setText(null);
        }
    }
});
Remainder.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if (edt1.getText().length() != 0) {
            input1 = Float.parseFloat(edt1.getText() + "");
            mRemainder = true;
            decimal = false;
            edt1.setText(null);
        }
    }
});
buttonEqual.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if (Addition || Subtract || Multiplication || Division ||
            mRemainder) {
            input2 = Float.parseFloat(edt1.getText() + "");
        }
        if (Addition) {
            edt1.setText(input1 + input2 + "");
            Addition = false;
        }
        if (Subtract) {
            edt1.setText(input1 - input2 + "");
            Subtract = false;
        }
    }
});

```

```

        if (Multiplication) {
            edt1.setText(input1 * input2 + "");
            Multiplication = false;
        }
        if (Division) {
            edt1.setText(input1 / input2 + "");
            Division = false;
        }
        if (mRemainder) {
            edt1.setText(input1 % input2 + "");
            mRemainder = false;
        }
    }
});
buttonDel.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        edt1.setText("");
        input1 = 0.0;
        input2 = 0.0;
    }
});
buttonDot.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if (decimal) {
            //do nothing or you can show the error
        } else {
            edt1.setText(edt1.getText() + ".");
            decimal = true;
        }
    }
});
}
}
}

```

Output:

