

Malyaj nailwal, BCA5A,Rn:32,UnRn:-1921091

Problem Statement:- Create a simple application to implement simple calculator in android ?

Code (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:id="@+id/relative1"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#B6AFAF"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/edt1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />

    <Button
        android:id="@+id/button1"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```
android:layout_below="@+id/edt1"
android:layout_alignEnd="@+id/button4"
android:layout_alignRight="@+id/button4"
android:layout_marginTop="94dp"
android:text="1" />
```

<Button

```
android:id="@+id/button2"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignTop="@+id/button1"
android:layout_toStartOf="@+id/button3"
android:layout_toLeftOf="@+id/button3"
android:text="2" />
```

<Button

```
android:id="@+id/button3"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignTop="@+id/button2"
android:layout_centerHorizontal="true"
android:text="3" />
```

<Button

```
android:id="@+id/button4"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
android:layout_below="@+id/button1"
android:layout_toLeftOf="@+id/button2"
android:text="4" />
```

<Button

```
android:id="@+id/button5"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignStart="@+id/button2"
android:layout_alignLeft="@+id/button2"
android:layout_alignBottom="@+id/button4"
android:text="5" />
```

<Button

```
android:id="@+id/button6"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/button3"
android:layout_alignStart="@+id/button3"
android:layout_alignLeft="@+id/button3"
android:text="6" />
```

<Button

```
android:id="@+id/button7"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
android:layout_below="@+id/button4"
android:layout_toLeftOf="@+id/button2"
android:text="7" />
```

<Button

```
android:id="@+id/button8"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/button5"
android:layout_alignStart="@+id/button5"
android:layout_alignLeft="@+id/button5"
android:text="8" />
```

<Button

```
android:id="@+id/button9"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/button6"
android:layout_alignStart="@+id/button6"
android:layout_alignLeft="@+id/button6"
android:text="9" />
```

<Button

```
android:id="@+id/buttonadd"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
android:layout_alignTop="@+id/button3"
android:layout_alignEnd="@+id/edt1"
android:layout_alignRight="@+id/edt1"
android:layout_marginStart="46dp"
android:layout_marginLeft="46dp"
android:layout_toRightOf="@+id/button3"
android:text="+"
app:backgroundTint="#E60D08" />
```

<Button

```
android:id="@+id/buttonsub"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/buttonadd"
android:layout_alignStart="@+id/buttonadd"
android:layout_alignLeft="@+id/buttonadd"
android:layout_alignEnd="@+id/buttonadd"
android:layout_alignRight="@+id/buttonadd"
android:text="-"
app:backgroundTint="#FDD835" />
```

<Button

```
android:id="@+id/buttonmul"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/buttonsub"
```

```
android:layout_alignStart="@+id/buttonsub"
android:layout_alignLeft="@+id/buttonsub"
android:layout_alignParentEnd="true"
android:layout_alignParentRight="true"
android:text="*"
app:backgroundTint="#43A047" />
```

<Button

```
android:id="@+id/button10"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/button7"
android:layout_toLeftOf="@+id/button2"
android:text="."
app:backgroundTint="#039BE5" />
```

<Button

```
android:id="@+id/button0"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/button8"
android:layout_alignStart="@+id/button8"
android:layout_alignLeft="@+id/button8"
android:text="0" />
```

<Button

```
android:id="@+id/buttonC"
```

```
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/button9"
android:layout_alignStart="@+id/button9"
android:layout_alignLeft="@+id/button9"
android:text="C"
app:backgroundTint="#43A047" />
```

<Button

```
android:id="@+id/buttondiv"
style="?android:attr/buttonStyleSmall"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/buttonmul"
android:layout_alignStart="@+id/buttonmul"
android:layout_alignLeft="@+id/buttonmul"
android:layout_alignEnd="@+id/buttonmul"
android:layout_alignRight="@+id/buttonmul"
android:text="/" />
```

<Button

```
android:id="@+id/buttoneql"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_below="@+id/button0"
android:layout_alignStart="@+id/button10"
android:layout_alignLeft="@+id/button10"
android:layout_alignEnd="@+id/buttondiv"
```

```
android:layout_alignRight="@+id/buttondiv"
android:layout_marginTop="37dp"
android:text=""
app:backgroundTint="#605C5C" />
```

```
</RelativeLayout>
```

Code (JAVA):-

```
package com.example.calculator;

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

public class MainActivity extends AppCompatActivity {

    Button button0, button1, button2, button3, button4, button5, button6,
        button7, button8, button9, buttonAdd, buttonSub, buttonDivision,
        buttonMul, button10, buttonC, buttonEqual;
    EditText EditText;

    float mValueOne, mValueTwo;

    boolean Addition, Subtract, Multiplication, Division;
```


@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);
```

```
    button10 = (Button) findViewById(R.id.button10);
```

```
    buttonAdd = (Button) findViewById(R.id.buttonadd);
```

```
    buttonSub = (Button) findViewById(R.id.buttonsub);
```

```
    buttonMul = (Button) findViewById(R.id.buttonmul);
```

```
    buttonDivision = (Button) findViewById(R.id.buttondiv);
```

```
    buttonC = (Button) findViewById(R.id.buttonC);
```

```
    buttonEqual = (Button) findViewById(R.id.buttoneq);
```

```
    EditText = (EditText) findViewById(R.id.edt1);
```

```
    button1.setOnClickListener(new View.OnClickListener() {
```

```
        @Override
```

```
        public void onClick(View v) {
```

```
        EditText.setText(EditText.getText() + "1");  
    }  
});
```

```
button2.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        EditText.setText(EditText.getText() + "2");  
    }  
});
```

```
button3.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        EditText.setText(EditText.getText() + "3");  
    }  
});
```

```
button4.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        EditText.setText(EditText.getText() + "4");  
    }  
});
```

```
button5.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        EditText.setText(EditText.getText() + "5");  
    }  
});
```

```
    }  
});
```

```
button6.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        EditText.setText(EditText.getText() + "6");  
    }  
});
```

```
button7.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        EditText.setText(EditText.getText() + "7");  
    }  
});
```

```
button8.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        EditText.setText(EditText.getText() + "8");  
    }  
});
```

```
button9.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        EditText.setText(EditText.getText() + "9");  
    }  
});
```

```
});
```

```
button0.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        EditText.setText(EditText.getText() + "0");  
    }  
});
```

```
buttonAdd.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
  
        if (EditText == null) {  
            EditText.setText("");  
        } else {  
            mValueOne = Float.parseFloat(EditText.getText() + "");  
            Addition = true;  
            EditText.setText(null);  
        }  
    }  
});
```

```
buttonSub.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        mValueOne = Float.parseFloat(EditText.getText() + "");  
        Subtract = true;  
        EditText.setText(null);  
    }  
});
```

```
    }  
});
```

```
buttonMul.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        mValueOne = Float.parseFloat(EditText.getText() + "");  
        Multiplication = true;  
        EditText.setText(null);  
    }  
});
```

```
buttonDivision.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        mValueOne = Float.parseFloat(EditText.getText() + "");  
        Division = true;  
        EditText.setText(null);  
    }  
});
```

```
buttonEqual.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        mValueTwo = Float.parseFloat(EditText.getText() + "");  
  
        if (Addition == true) {  
            EditText.setText(mValueOne + mValueTwo + "");  
            Addition = false;  
        }  
    }  
});
```

```

    }

    if (Subtract == true) {
        EditText.setText(mValueOne - mValueTwo + "");
        Subtract = false;
    }

    if (Multiplication == true) {
        EditText.setText(mValueOne * mValueTwo + "");
        Multiplication = false;
    }

    if (Division == true) {
        EditText.setText(mValueOne / mValueTwo + "");
        Division = false;
    }
}

});

buttonC.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        EditText.setText("");
    }
});

button10.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {

```

```
        EditText.setText(EditText.getText() + ".");  
    }  
    });  
}  
}
```