Number 1

Using inheritance implement the calculator(add, sub,mul,div)

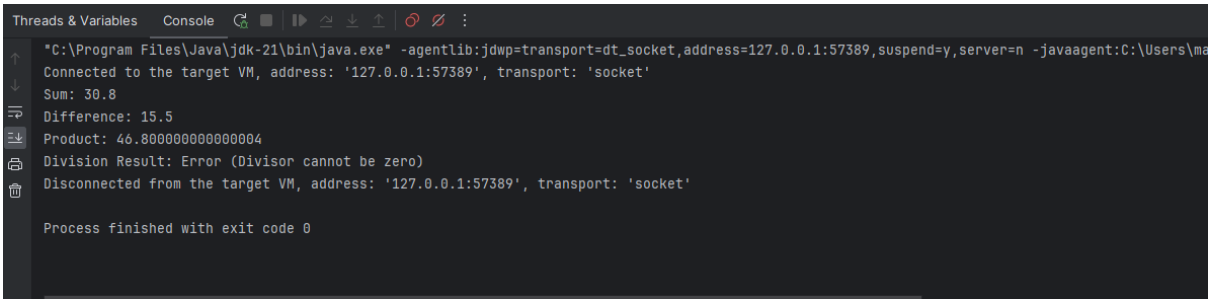
```
class calculator{
      //add
 //sub
 //mul
 }

Class Maths extends Calculator{

 main(){
      maths = new maths();

}
 }
```

Answer:

```java
class Calculator {

    // Method to add two numbers
    public double add(double num1, double num2) {
        return num1 + num2;
    }

    // Method to subtract two numbers
    public double sub(double num1, double num2) {
        return num1 - num2;
    }

    // Method to multiply two numbers
    public double mul(double num1, double num2) {
        return num1 * num2;
    }

    // Method to divide two numbers, returns Double.NaN if divisor is
zero
    public double div(double num1, double num2) {
        if (num2 == 0.0) {
            return Double.NaN;
        }
        return num1 / num2;
    }
}
```

```
class Maths extends Calculator {

    public static void main(String[] args) {
        Maths maths = new Maths();

        // Example usage of calculator methods
        double sum = maths.add(20.5, 10.3);
        double difference = maths.sub(30.75, 15.25);
        double product = maths.mul(6.5, 7.2);
        double divisionResult = maths.div(42.0, 0.0); // Attempting to
divide by zero

        System.out.println("Sum: " + sum);
        System.out.println("Difference: " + difference);
        System.out.println("Product: " + product);

        // Check for NaN before printing the division result
        if (Double.isNaN(divisionResult)) {
            System.out.println("Division Result: Error (Divisor cannot
be zero)");
        } else {
            System.out.println("Division Result: " + divisionResult);
        }
    }
}
```

Result:



Number 2

2. By using all primitive data type declare the variable and print the value in console.

```
public class PrimitiveDataTypes {

    public static void main(String[] args) {
```

```
        // Declaration and initialization of all primitive data types
        byte myByte = 100;
        short myShort = 5000;
        int myInt = 100000;
        long myLong = 15000000000L;
        float myFloat = 5.99f;
        double myDouble = 19.99;
        boolean myBoolean = true;
        char myChar = 'A';

        // Printing the values to the console
        System.out.println("Byte Value: " + myByte);
        System.out.println("Short Value: " + myShort);
        System.out.println("Int Value: " + myInt);
        System.out.println("Long Value: " + myLong);
        System.out.println("Float Value: " + myFloat);
        System.out.println("Double Value: " + myDouble);
        System.out.println("Boolean Value: " + myBoolean);
        System.out.println("Char Value: " + myChar);
    }
}
```

Result: