

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:

```
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:

```

"C:\Program Files\Java\jdk-21\bin\java.exe" -agentlib:jdwp=transport=dt_socket,address=127.0.0.1:57389,suspend=y,server=n -javaagent:C:\Users\me
Connected to the target VM, address: '127.0.0.1:57389', transport: 'socket'
Sum: 30.8
Difference: 15.5
Product: 46.800000000000004
Division Result: Error (Divisor cannot be zero)
Disconnected from the target VM, address: '127.0.0.1:57389', transport: 'socket'

Process finished with exit code 0

```

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) {

```

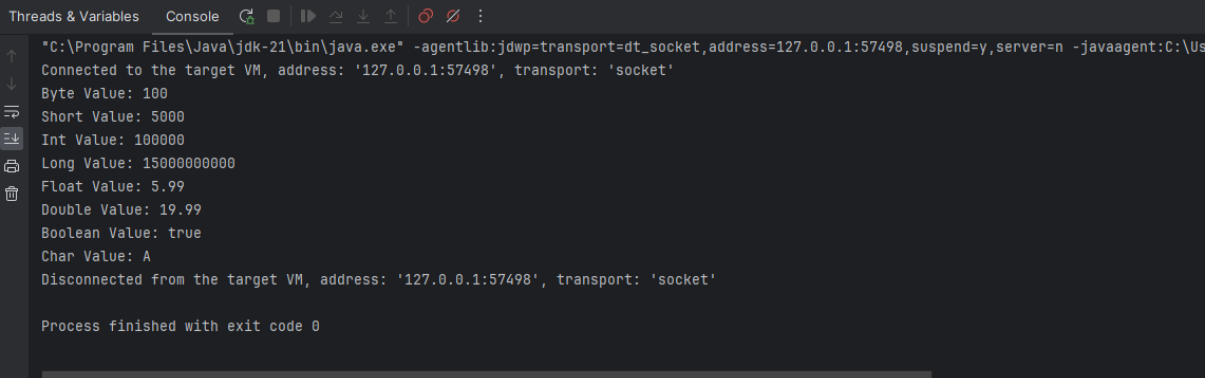
```

// 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:



The screenshot shows a Java IDE console window with the following output:

```

"C:\Program Files\Java\jdk-21\bin\java.exe" -agentlib:jdwp=transport=dt_socket,address=127.0.0.1:57498,suspend=y,server=n -javaagent:C:\Us
Connected to the target VM, address: '127.0.0.1:57498', transport: 'socket'
Byte Value: 100
Short Value: 5000
Int Value: 100000
Long Value: 15000000000
Float Value: 5.99
Double Value: 19.99
Boolean Value: true
Char Value: A
Disconnected from the target VM, address: '127.0.0.1:57498', transport: 'socket'

Process finished with exit code 0

```