Static Methods - Using Math

Mr. Poole
Java

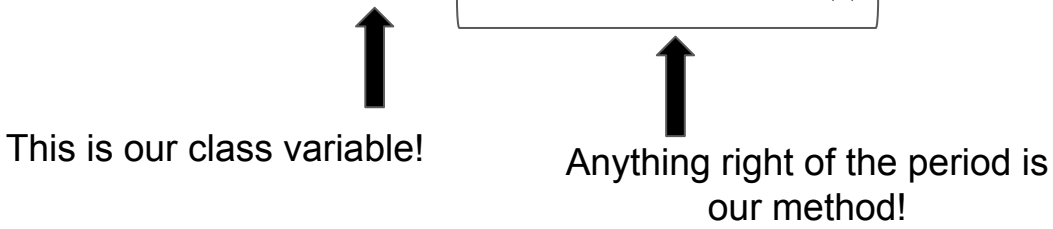
Calling a Method

```
Scanner sc = new Scanner(System.in);

String text = sc.nextLine();

int number = sc.nextInt();

double number = sc.nextDouble();
```



The way a method works

```
Scanner sc = new Scanner(System.in);

sc.nextDouble();
```

This basically says
“Hey I’m a Scanner!”

This says ->
In “Scanner” go find the
“nextDouble” method and run it!

```
Scanner file
Method nextDouble{
    I do beep boop find double;

}
```

Now Math.

Math is static

- We can call it whenever we want!
- Meaning there is one STATIC variable name

We use Math because it’s too complex for basic character operators

```
Math.method();
```

Math Methods

Math.max(1,2); – Returns max of 2 numbers

Math.sqrt(4); – Returns square root

Math.pow(2,4); – Returns 2*2*2*2 or 2^4

https://docs.oracle.com/javase/8/docs/api/java/lang/Math.html

Math Methods Practice

```
Math.max(7,8); - ???

Math.sqrt(81);  - ?????

Math.pow(5,13); - ???????
```

Math Methods Practice

Math.max(7,8); – 7 < 8 = **8**

Math.sqrt(81); – $\sqrt{81}$ = **9**

Math.pow(5,13); – 5^{13} = **1220703125**

Math Methods Lab

1. Complete these following problems
    a. Max (13 - 6 * 11, 30 % 7 * (-2))
    b. Sqrt (3 * 8 + 31 % 7)
    c. Pow (37 / 3, 35 % 21)
    d. Max(Pow(2,14%3) , Sqrt (2*6))

Math Methods Lab - Extra

1. Take in two double values (x,y) using Scanner from the user
2. Output the max of the two values
3. Output the Square Root of y
4. Output the power of x^y

In the labOutput folder, you can run "`java extra`" to show the output of this part of the lab.