Return Values

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Before We Begin

- Make sure you have Java & Java JDK downloaded on your computer
  - can run `java -version` in terminal to check
- Make sure you have IntelliJ downloaded on your computer

- *Suggested:* Watch previous Java tutorials

Vocab Alert!

return: to send out a value as the result of a method

return type: the type that is being returned from a method

return value: the value that got returned from a method

Purpose of Return Values

Return values are used to give information back to the caller so that methods can be used for things like calculations instead of just printing.

Creating Method with Return Value

```
// return calculated variable
public static type methodName1() {
    type x;
    // code for calculation and assignment of x
    return x;
}

// return explicit value
public static type methodName2() {
    return value;
}
```

Calling a Method with a Return Value

```java
public static void main(String[] args) {
    type x = methodName1();
    type y = methodName2();
}
```

A Common Mistake

You have to store the return value from the method in a variable or it won't be able to be used later

Or, if you just want to print the return value you can use the method directly in a println

Can I Overload Methods with Return Values?

No, method overloading only works with parameters. If you try to create different methods with the same name, the same parameters, but different return values you will get a compile error

Return Value Practice

Write the following methods:

- Return the perimeter of a square (int)
- Return the area of a rectangle (double)
- Return the average of 3 numbers (double)

Note: these methods will require parameters AND return values

The End