Methods

DRY KISS principle

- Dont Repeat Yourself
- Keep It Simple Stupid
- Using methods is **very important!**

The art of not repeating code and building modular applications

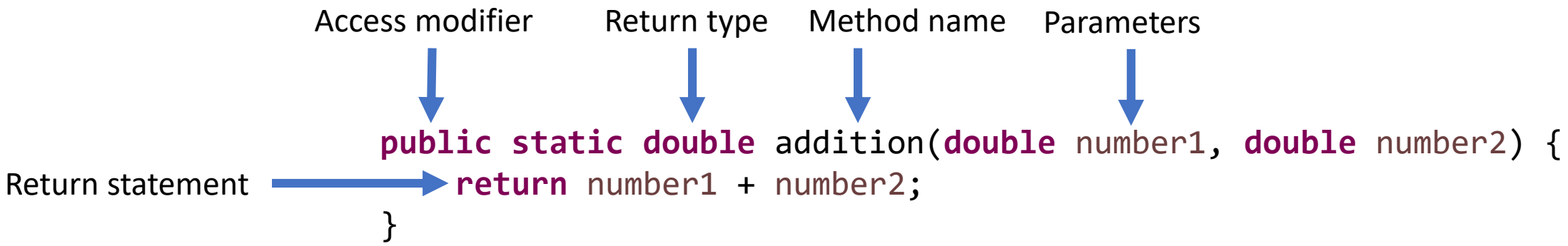
What are methods

- Is where code is being executed
- Collections of statements grouped together to perform an operation
- Should only do ONE thing.

Why use methods?

- Create once and reuse
- Readability
- Easy to maintain

A method can have any return type.
void, String, int, double etc…



ANY method that is not of return type void NEED TO RETURN a value!

We will explain static in depth later on in the course.

Access modifiers

- There are four access modifiers in Java
- **`private`**
  - Reachable only from within the same class or nested inner class.
- **`public`**
  - Reachable from everywhere in the application.
- Default (no modifier)
  - Reachable from within same package.
- **`protected`**
  - Reachable from within same package and from subclasses outside of the package.

Some examples

```
public static void printMenu() {
    System.out.println("1. Start the application");
    System.out.println("Q. Terminate application");
}
```

```
public static String getShortestWord(String word1, String word2) {
    if(word1.length() < word2.length()) {
        return word1;
    }else {
        return word2;
    }
}
```

Practice:
What can be broken out into new methods?

Calculator pseudo code for main method

- Print greeting to user with option to end program or do a calculation
- Ask user for input
- Get input from user
- Make selection based on input
- Ask user for a number
- Get a number as userinput
- Ask user for an operator
- Get operator as userinput
- Validate user input
- Ask user for a number
- Get a number as userinput
- Make selection based on operator
- Calculate and store the result in a variable
- Show the result of the calculation