The Learning House

427 S. 4th Street #300

Louisville KY 40202

Java Basics Unit

Lesson 7 - Methods

SOFTWARE GUILD

Lazy

- Ever been called lazy as a compliment?
- Do you like doing work that is unnecessary or redundant? I don't!
- We'll look at techniques that allow us to package and reuse code
- Lazy coders are good coders! (the right kind of lazy…)

Objectives

- Understand why methods are important
- Define “method signature” and identify all of its constituent parts
- Use all permutations of method types

Why Methods?

- Convenient way of organizing and packaging code for use in a variety of situations
- You have already used methods:
  - o main
  - o System.out.println(..)
  - o getNext(..) on Scanner
- Code reuse
- Helps us break large tasks into smaller steps

Method Declaration

- Return type
- Name
- Parameter list
- Method signature: name and parameter list
- Methods do not have to return values
- Methods do not require parameters

Examples

- Start NetBeans
- New Project: MethodDemo

The ‘static’ Keyword

- Methods and variables can be static or non-static
- To make something static, use the “static” keyword (we have seen this with main)
- If something is static, there is only one copy of it in the environment
- Let’s look at some examples...

A Useful Method

- MethodDemo project
- Let’s write a method to get input from the user
- What is our job here?
- Would this method return anything?
- Would this method take any parameters?

Exercise

- Incorporate our new method for getting user input and put it in WindowMaster

Scope

- Variables are visible to code depending how code blocks are arranged
- Nested blocks can see variables declared in surrounding blocks
- Surrounding blocks cannot see variables declared in nested blocks
- Examples…

Exercise (2)

- Write a method for range checking in WindowMaster:
  - o Plan it:
    - Where will you use it?
    - Return type?
    - Parameters?
    - Name?
    - Logic? Use flowchart.
    - Errors?
  - o Implement and test
- Work in pairs