17.5 Problem Set

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AP Comp Sci A

Fundamentals of Java, p. 207, Exercise 6.4, Problems 1 and 2

1. Explain the difference between formal parameters and actual parameters.
   1. Formal parameters are defined within method definitions, where as actual parameters are passed in when the method is invoked.
2. How does Java transmit data by means of parameters?
   1. When a method is invoked, and a parameter is passed, data can be transferred from method A into method B via the value of the parameter.

Fundamentals of Java, p. 212, Exercise 6.5, Problems 1 and 2

1. What are the lifetimes of an instance variable, a local variable, and a parameter?
   1. Instance Variables: Equivalent to the lifetime of the object (beginning to end).
   2. Local Variables: During the execution of the method containing it.
   3. Parameter: Similar to local variables, during the execution of the method to which it is passed.
2. What is shadowing? Give an example and describe the problems that shadowing might cause in a program.
   1. Shadowing is basically overwriting a global variable with a local variable (ex. using a variable that is defined somewhere else), which can lead to lost data, and many logic errors in the code.