Java Notes & Newbie Errors

OOP: Object-Oriented Programming

Object vs. Class

Class: A class is a series of instructions that define how an object will look and act.

A class is used to create objects, and it defines the initial state of the objects and the information that the objects will contain.

Object: An object is a specific instance of a class and is used to perform actions or tasks in a program.

Multiple objects can be created from a single class.

Attributes & Behaviors

An object is defined by its attributes (states) and behaviors.

Attributes describe how an object <u>looks</u>, while behaviors define what an object can do (how it <u>acts</u>).

Other Terms

Identifier: An identifier is the name used to refer to a variable, method, class, or package.

Static: The keyword "static" attaches an identifier to a class, rather than to the objects created from that class.

Method: A method is a section of code that performs some action defined by a class, usually a specific task.

Constructor: A constructor is a method in a class that has the same name as the class. It is used to create new instances (objects) of the class and initialize variables.

New: The keyword "new" is used in conjunction with the constructor of a class to create a new instance (object) of that class.

Argument: An argument is a value, variable, or expression passed to an object when calling a method in that object.

Package: A package is a collection of Java classes.

Common Beginning-Programmer Errors – Fix Them Yourself!!!

- Use **==** for comparisons (<u>not</u> **=**)
- Put parentheses around 'if' and 'while' comparisons
- Do <u>not</u> put a semicolon at the end of most 'if' lines, 'for' lines, and other control statements
- <u>Do</u> put a semicolon at the end of most lines of code
- Match up all opening and closing braces
- Properly indent lines of code, especially within loops
- Remember that order matters when passing arguments into methods
- Start variable and method names with lowercase letters, but capitalize the first letter of additional words in the names; for class names, capitalize the first letter, and also the first letter of additional words