Notes: Introduction to Java Programming

Writing Java Code

* You write Java code as text. You then **compile** it into compiler instructions using a program called a compiler. When your java code is compiled it turns into bytecode. Then you can **run** the bytecode using the Java Runtime Environment.
* In this class you will be writing your Java code using an Integrated Development Environment (IDE) called **JGrasp**. IDEs allow you to type your code, compile your code, and run your code.

Class and Main Declarations

* Java code must be written inside of a **class**

public class ClassName {

}

* A class is executable only if it has a **main** method; the main method is the launch point of a Java program

public static void main(String[] args) {

}

Printing to the Screen

* System.out.println("text"); prints the information inside the parentheses to the console, followed by a new line
* System.out.print("text"); prints the information inside the parentheses to the console, without a following new line
* Note that statements/commands in Java end with semicolons

Escape sequences

|  |  |
| --- | --- |
| \n | Newline |
| \t | Tab |
| \" | Double quote |
| \\ | Backslash |

Comments

* Comments are used to leave descriptive notes in code or to prevent code from executing:  
  + Single Line comments

// The rest of the line after two forward slashes is ignored by the compiler

// Single line comments are… for a single line

* + Block comments

/\*

Everything between the opening slash-star and the closing star-slash is

ignored by the compiler. These block comments can span several lines of text.

It is important not to put a space between the slash and the star.

\*/

* + When code is put in a comment it is considered “commented out” and does not execute

// System.out.println(“This line doesn’t execute.”);

Methods

* The main should be short and give an good overview of what your program does (like an outline to an essay) by calling other methods
* **Declaring a method**: defines the method, but does not execute it

public static void sayHi() {

System.out.println("Hi!");

}

* **Calling a method**: executes the method

sayHi();

* Methods can call other methods
* Methods can call themselves, but should not do so in this course
* Not all programming solutions are created equal; when writing code, you should write DRY (**D**o not **R**epeat **Y**ourself) code where possible. You do this by defining methods and then calling them multiple times.

Style

* Classes start with a capital letter, no spaces, all other words in name are also capitalized, e.g.:

public class TestMain

* Methods start with lowercase letters, no spaces, all other words in name are capitalized, e.g.:

public static displayRules()

* Indentation is important even though Java ignores it; when you open a curly brace everything inside is indented, e.g.:

public static void main(String[] args) {

System.out.println("I'm indented one tab");

}