**Learning Objectives:**

* Learn about variables in programming: declaring, using, and changing its value
* Learn about the hazards of hardcoding

**Variables:**

* Variables are
* They
* E.g. x = 2; x + 3 = 5
* It’s like variables in math!

**There are 3 Parts to a Variable:**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**We will be using 3 types of variables:**

|  |  |
| --- | --- |
| **Variable Type:** | **Description** |
| int |  |
|  | These include all letters, words, numbers and characters, put together in any combination, and must always be in between quotes. |
| double |  |

**Syntax:** The grammar of a programming language.

**Declaring a Variable:**

* To declare a variable means to
* There are 2 ways to declare a variable:

Method 1:

|  |
| --- |
|  |

Method 2:

|  |
| --- |
|  |

**Remember:**

* Capitals matter!
* Use meaningful names: they are much easier to understand and remember
* Spelling matters!

**Changing the Value of a Variable:**

|  |
| --- |
| String name = "Bob";  name = "Billy Bob"; |

* Values for int and double type variables can be changed using (e.g. addition, subtraction, multiplication, division)

|  |
| --- |
| int mark = 80;  int bonus = 20;  mark = mark + bonus;  System.out.println("Your total mark is " + mark); |

**Hardcoding:**

* DO NOT
* What this means is when you output the value of your variables, you should use the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Right Way: Wrong Way:**

|  |  |
| --- | --- |
| String name = "Bob";  System.out.println(name); | String name = "Bob";  System.out.println("Bob"); |

**Homework 1:**

* Can be found on the LogicFusion website: <http://logicfusion.ca/courses/page/P1>
* Please name your program and file YournameHmwk1.java (e.g. CarmenHmwk1.java)
* Please email the .java file (not .java~) to your instructor
* Must be emailed before the start of week 3’s class