**Variables/Operators**

Variables: Stores information (not just representing an unknown)

**8 primitive types**

1. Float
2. Double
3. Int
4. Char
5. Byte
6. Short
7. Long
8. Boolean

|  |  |  |
| --- | --- | --- |
| **Type** | **Bit Length** | **Value Range** |
| byte | 8 | -128 🡪 127 |
| short | 16 | -32768 🡪 32767 |
| int | 32 | -2 billion 🡪 2 billion |
| long | 64 | -huge 🡪 huge |
| float | 32 |  |
| Double | 64 |  |

Rules/Conventions for Naming Variables

* Case sensitive
* Begin with letter, then use numbers, then use \_,#,$
  + Example:
    - secondPower 🡪 good
    - 2ndPower 🡪 not good
* No whitespace
* Lowercase if it is a single word
* Camel case
* Full meaningful words (or comment)
* Constants are ALL\_UPPERCASE

Creating Variables

* Int variableName = 30; 🡨 initializayion
* Int number;

Number = 40;

* type name = value;
* char firstLetter = ‘w’;

boolean isSmelly = true;

Matching Types

* small and large
  + int a =5;
  + short b = 7;
  + a=b; //able
  + b=a; //unable
* char in ints

Operators

* +
* -
* \*
* /
* %