

Variables, Data Types, and Operators

- Variable Declarations Examples:
 - `int yourAge = 34;`
 - `int a = 5, b = 7, c = 21;`
 - `String yourName = "Bob";`
 - `boolean notOn = true;`
- Comments:
 - `/* This is how you insert a multiline comment. You must enclose it between an opening slash-asterisk and a closing asterisk */`
 - `// And this is how you insert a single-line comment.`
- Logical and Arithmetic Operators:
 - `+` addition
 - `-` subtraction
 - `*` multiplication
 - `/` division
 - `%` modulus
 - `<` less than
 - `>` greater than
 - `<=` less than or equal to

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- Logical and Arithmetic Operators:
 - `>=` greater than or equal to
 - `=` assignment
 - `==` identically equal to
 - `!=` not equal
 - `&&` logical AND
 - `||` logical OR
 - `!` Logical NOT
 - `&` bit-wise AND
 - `|` bit-wise OR
 - `^` bit-wise XOR
 - `<<` left shift
 - `>>` right shift
 - `~` complement
 - `++` increment
 - `--` decrement
 - `+=` add and assign
 - `-=` subtract and assign

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- Precedence:
 - . [] ()
 - ++ -- !
 - new () casting
 - * / %
 - + -
 - << >>
 - < >
 - == !=
 - &
 - ^
 - |
 - &&
 - ||
 - ?: if-then-else
 - = += -=
 - Precedence order is from top-to-bottom, left-to-right within the expression

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- Special use of “+”:
 - concatenation: Ex. `System.out.println(“I am “ + myAge + “years old.”);`
- Escape characters:
 - `\n` newline
 - `\t` tab
 - `\b` backspace
 - `\r` carriage return
 - `\\` backslash
 - `\f` form-feed
 - `\'` single quote
 - `\"` double quote
 - Ex. `System.out.println(“This is an intentional line break. \n The security guard yelled \” Hark! Who goes there?\” “);`
- Evaluate:
 - $(9\%3)/6*7-(2+7) = \underline{\hspace{2cm}}$
 - $(8-3*(5\%3))+2 = \underline{\hspace{2cm}}$
 - $(3 <=4) \parallel (5==2) \&\& (!(3 >2)) = \underline{\hspace{2cm}}$
 - $7.0f\% 2.0f = \underline{\hspace{2cm}}$