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) = _____________________________
  • (8-3*(5%3)) + 2 = _____________________________
  • (3 <=4) || (5==2) && (!(3 >2)) = ___________________
  • 7.0f % 2.0f = _________________________________