

Questions for CS 149 Lecture 3

```
1 int dollars;  
2 int cents;  
3 double grams;  
4  
5 dollars = 1;  
6 cents = 90;  
7 grams = 3;
```

1. Identify the Java **keyword** used in a variable declaration to indicate
 - a) an integer:
 - b) a floating-point number:
2. Consider numbers of dollar bills, cents, and grams. Which of these units only makes sense as an **integer**, and why?
3. What would you expect the following statements to print out?
 - a) `System.out.println(dollars);`
 - b) `System.out.println(cents);`
 - c) `System.out.println(grams);`
4. What do you think the purpose of a variable declaration is?
5. Consider the statement: `cents = dollars;`
 - a) Compare this code to lines 5–7 in Model 2. What value do you think cents and dollars will have after running this statement?
 - b) Which side of the equals sign (left or right) was assigned a new value?
6. Examples of Java operators include + and - ; they describe an operation to be executed (e.g., addition or subtraction).
 - a) Do you consider the equals sign in Java an operator (an operation to be executed)? If so, explain the operation. If not, explain why not.
 - b) Do you consider the equals sign in mathematics an operator (an operation to be executed)? If so, explain the operation. If not, explain why not.
7. In your own words, explain how you should read the = sign in Java. For example, the Java statement `x = a + b;` should be read as “x _____ a plus b.”

Parenthesis	()
Unary (positive or negative signs)	+ -
Multiplicative	* /
Additive	+ -
Assignment	=

Assume the following 2 variables have been declared for questions the 4 questions below.

```
int x;
double y;
```

Questions:

1. What operator has the lowest precedence? Why do you think Java is designed that way?
2. The + and - operators show up twice in the table of operator precedence. For the Java expression `x = 5 * -3;` explain how you know whether the - operator is being used as an unary or binary operator in this expression.
`y = 9 / 2 ;`
3. Based on your answer to the previous question, explain why the variable y would be assigned 4.0 (as opposed to 4 or 4.5).
4. Rewrite the assignment for y so that it would be set correctly to 4.5. (Hint: you'll need to recall what you learned about division in Model 2.)