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TRUE/FALSE

1. False; The true statement would be Machine Code
2. True
3. False; They are actually much easier / cheaper to fix early on
4. False; Compiler
5. True
6. True
7. True
8. True
9. True
10. False; All information is in binary form.

FILL IN THE BLANK

1. Object Oriented Programming
2. Compiler
3. Java Virtual Machine
4. Method
5. Floating Point
6. Precedence; an explicit statement
7. Concatenation
8. Loop
9. Logic Error
10. Stack Overflow Error

WRITTEN

1. What is the purpose of a variable in a program?
   1. The purpose of a variable is to store data, which can be used in a variety of ways.
2. The three types of programming errors are:
   1. Syntax - A “grammar” error (misspelling the syntax)
   2. Runtime - Impossible task, e.g dividing by zero
   3. Logic - A human error, which throws off the results of the program
3. Describe the differences between the data types double and int.
   1. A double is a floating point number (with decimals), whereas an integer is a whole number.
4. Assume that the variables x and y contain the values 8 and 4, respectively. What are the values of the expressions listed below?
   1. x + y \* 2
   2. (x+y)/3
   3. x - y \* 3
   4. x + y \* 1.5

The values are:

* 1. 16: 8 + 4 \* 2 = 8 = 8 + 8
  2. 4: (4+8)/3 = 12/3
  3. -4: 8 - 12 = -4
  4. 14.0 = 8 + 4 \* 1.5 = 14

1. Write a valid Java statement that adds 5 to the value of variable x if the value of variable y is greater than 10.

if (y > 10) {

x += 5;

}

6. A program has the following loop heading: while (3 < x < 10). Is the heading syntacti-

cally correct? If incorrect, explain why.

No, in order for that header to be valid, it would have to be split up into two parts:

3 > x && x < 10

7. Write a loop that outputs the first 10 positive powers of 2.  
 for (int x = 1; x < 11; x++) {

System.out.println(Math.pow(2,x));

}