

# CMSC330 Summer 2009

## Quiz 1

Name: \_\_\_\_\_ **Answer** \_\_\_\_\_

1. Compilation and Interpretation (4 points)
  - a. What is the difference between compilation and interpretation?

**Compilation converts source code into machine code and attempts to optimize/process during this step, examining the entire code; interpretation executes a single instruction at a time without this analysis**

- b. Give an instance where you would use one over the other.

**If we care about runtime performance we would likely use a compiled language**

2. What are 4 attributes of a good programming language (list and BRIEFLY explain each in one sentence or phrase)? (4 points)

**Look at slides 26-28 from first day of class**

3. Give the output for the following Ruby programs or write FAIL if they would not execute or if they would produce an error. (10 points)

a. `x = "string"`  
`y = "string"`  
`puts "yes" if x == y`

`x = 'hello'`  
`y = 'world'`  
`puts x + y`

**yes**  
**helloworld**

b. `x = "My phone number is (301)-555-5555."`  
`regex1 = /phone.*/`  
`regex2 = '\((\d{3})\)-\d{3}-\d{4}'`  
`regex3 = '$'`

`if x =~ regex1`  
    `puts "1"`  
    `puts $1`  
`end`  
`if x =~ Regexp.new('phone.*' + regex2)`  
    `puts "2"`  
    `puts $1`  
`end`  
`if x =~ Regexp.new(regex2 + regex3)`  
    `puts "3"`  
    `puts $1`  
`end`

**1**  
**nil**  
**2**  
**301**

4. Complete the Ruby method below to print all integers from 0 to x that are odd. (x is a variable that is passed in). Hint: use `%`. (4 points)

```
def printOdd(x)

    for i in (0..x)
        if (i % 2 != 0)
            then puts i
        end
    end
end

end
```