

Grading - CMSC330 Spring 2015 Quiz #1

Name _____

Discussion Time (circle one): 10am 11am 12pm 1pm 2pm 3pm

Discussion TA (circle one): Amelia Casey Chris Mike Elizabeth Eric Tommy

Instructions

- Do not start this test until you are told to do so!
- You have 15 minutes for this quiz.
- This is a closed book exam. No notes or other aids are allowed.
- Answer essay questions concisely in 2-3 sentences. Longer answers are not needed.
- For partial credit, show all of your work and clearly indicate your answers.
- Write neatly. Credit cannot be given for illegible answers.

1. (4 pts) Name an important difference between Ruby's *nil* and Java's *null*.

Either or:

- **nil is an object, while null is not. I.e., `nil.to_s` returns "nil"**
- **nil can be treated as false, while null cannot.**

2. (10 pts) What is the output (if any) of the following Ruby programs? Write FAIL if code does not execute. Output "nil" for "puts x" when x is nil (as in Ruby 1.8.7), instead of outputting a blank line (as in Ruby 1.9.3).

a. (3 pts)

```
a = []
a[1] = "b"
a = {}
a[2] = 3
puts a[1]
```

Output = nil

b. (3 pts)

```
if "Hello Universe" =~ /^[a-z]+/ then
  puts "Found #{ $1 }"
else
  puts "Not found"
end
```

Output = Not found

c. (4 pts)

```
a = [7, 3]
a[3] = "foo"
a.each {|x| puts x}
```

Output = 7
3
nil
foo

3. (6 pts) Write a Ruby method *triple* that given an array of integers *int_values*, uses the `Array.each`, `Array.sort` method and code blocks to print each array value and its corresponding tripled value, in sorted descending order. For instance, given the array [3, 2, 6, 1], your code should print out the following:

6 18
3 9
2 6
1 3

Some helpful functions (not all need to be used)	
<code>a.each { ... }</code>	// apply code block to each element in array
<code>a.sort { ... }</code>	// sort based on specifications of code block
<code>puts b</code>	// print b followed by a newline
<code>c.to_s</code>	// returns string for c

```
def triple(int_values)
```

e.g.

```
def triple(int_values)
  (int_values.sort {|x,y| y <=> x}).each {|x|
    puts "#{x} #{3*x}"
  }
end
```