

CMSC330 Fall 2010 Quiz #1 Solution

Name _____

Discussion Time (circle one): 9am 10am 11am 12pm 1pm 2pm

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*.

**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. (12 pts) What is the output (if any) of the following Ruby programs? Write FAIL if code does not execute.

- a. (4 pts)

```
a = { }
a["foo"] = 1
puts a[1]
```

Output = nil

- b. (4 pts)

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

Output = Found un

- c. (4 pts)

```
a = [1,2,3]
b = a.collect { |x| x+2 }
puts b
```

Output = 3
4
5

3. (4 pts) Give a regular expression (formal REs or in Ruby) for all even 3-digit numbers less than 200. Leading zeros are allowed (i.e., allow 000 to 198, but not 001 or 199).

Formal RE (0|1)(0|1|2|3|4|5|6|7|8|9)(0|2|4|6|8)

Ruby RE /(0|1)(0|1|2|3|4|5|6|7|8|9)(0|2|4|6|8)/
/[01][0-9][02468]/