

CMSC330 Fall 2013 Quiz #1 Solution

1. (6 pts) What is the output (if any) of the following Ruby programs? Write FAIL if code does not execute.

a. (2 pts)

```
a = "maryland terps"
if (a =~ /y+land$/)
  puts "Found one #{ $1 }"
else
  puts "Missed"
end
```

Output = **Missed**

b. (2 pts)

```
b = { "John" => 10, "Mary" => 20 }
puts b[10]
puts b["Mary"]
```

Output = **nil**
20

c. (2 pts)

```
a = -1
b = 1
c = a + b
if c
  puts "#{a} #{b}"
else
  puts c
end
```

Output = **-1 1**

2. (8 pts) Write a Ruby method *get_tag* that given a string *str*, uses regular expressions and back references to find and return a valid car tag. A valid car has three lowercase characters, followed by dash (-), followed by three digits. For instance, *get_tag*("this is a tag akm-432 we use") should return "akm-432". The method will return "NoTag" if there are no tags in the input string.

```
def get_tag(str)
  if str =~ /[a-z]{3}-\d{3}/
    $1
  else
    "NoTag"
  end
end
```

Alternative REs: `/[a-z]{3}-[0-9]{3}/` , `/[a-z][a-z][a-z]-[0-9][0-9][0-9]/` , etc...

3. (6 pts) Write a Ruby method *square* that given an array of integers *int_values*, uses the `Array.each` method and a code block to print each array value and its square. For instance, given the array [3, 2, 6, 1], your code should print out the following:

```
3 9
2 4
6 36
1 1
```

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

```
def square(int_values)
  int_values.each { |x|
    y = x * x
    puts "#{x} #{y}"
  }
end
```