CMSC330 Fall 2011 Example Quiz #1

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) Describe a benefit of using implicit declarations in Ruby.

2. (12 pts) What is the output (if any) of the following Ruby programs? Write FAIL if code does not execute.

   a. (3 pts)

```
puts "Win" if 1 < 0                    # Output =
puts "The" if 0 < 1
if 0 then
   puts "Future"
end
```

   b. (3 pts)

```
a = [5."foo",2.1]                      # Output =
puts "Found #{x[1]}"
```

   c. (3 pts)

```
a = { }                                # Output =
a["foo"] = 2
puts a[1]
```

   d. (3 pts)

```
a = [ ]                                # Output =
a[2] = 5
a.each { |x| puts x }
```

3. (14 pts) Given an array of strings *x*, write a Ruby method printRepeats(*x*) using Hash and code blocks to print out all strings in S followed by the number of occurrences, with each string on a separate line.

   Some helpful functions (not all need to be used):

```
a = h.keys          // returns keys in hash h as an array a
a = h.values        // returns values in hash h as an array a
b = a.sort          // b = new array similar to a, but in sorted order
a.sort!             // sorts elements of array a in place
a.size              // number of elements in the array
a.each { … }        // apply code block to each element in array
a.push / a.pop      // treat array as stack
```

Example Input (value of x)	Example Output
x = [“c”, “b”, “a”, “b”, “a”, “d”, “b”]	a 2 b 3 c 1 d 1

   Answer:

```
def printRepeats( x )
```