CMSC 330 Spring 2017 Quiz #1

Name (as it appears on gradescope) ____________________________________________

Discussion Time (circle one)  10am  11am  12pm  1pm  2pm  3pm
Discussion TA (circle one)    Aaron  Alex  Austin  Ayman  Daniel  Eric
                               Greg   Jake  JT    Sam   Tal   Tim   Vitung

Instructions
• Do not start this quiz until you are told to do so.
• You have 15 minutes for this quiz.
• This is a closed book quiz. No notes or other aids are allowed.
• For partial credit, show all of your work and clearly indicate your answers.

1. (2 point each) True or False – Circle whether each statement is True or False
   T  F  0, nil and false are all treated as false in Ruby
   T  F  Ruby has static type checking
   T  F  Variables in Ruby are implicitly declared
   T  F  Ruby requires a main method to execute code
   T  F  The @ prefix creates global class variables

2. (2 points each) Ruby Execution – Write the expected output of the code snippets below, if there
   would be an error, write FAIL.
   a.  a = [5,4,3,2,1]
       a.sort
       a.select! { |x| x % 2 == 0 }
       puts a

   b.  h = Hash.new(0)
       h[“330”] = 3
       h[“351”] = 3
       a = [“132”, 7, “330”, “351”]
       a.each{|e|
       puts h[e]
                   puts h[a]
                   }
3. (6 points) Define a method frequency that given an array, prints the number of occurrences of each element in the array on separate lines. The return value of the method can be anything.

   **Example**

   irb(main):01:0> frequency [4,3,2,3,4]
   4: 2
   3: 2
   2: 1
   => nil

def frequency a
    counts = Hash.new(0)
a.each { |e|
      counts[e] = counts[e] + 1
    }
counts.keys.each { |k,v|
    puts "#{k}: #{v}"
  }
end