1. (2 pts) Programming language (PL). For the following multiple choice questions, circle the letter(s) on the right corresponding to the best answer(s) to each question.

   a. Which following term is not a PL programming paradigm? A B C D
      A) imperative  B) functional  C) logical  D) hierarchical

   b. Which following term is not a desirable PL attribute? A B C D
      A) libraries  B) relational  C) verifiable  D) natural

2. (8 pts) Ruby. 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. a = [ ]
      a[“turtle”] = “terrapin”
      puts “turtle = #{a[“turtle”]}”
      OUTPUT =

   b. a = { }
      a[1] = “tortuga”
      puts “turtle = #{a[1]}”
      puts “shell” if a[2]
      OUTPUT =

   c. if “tortoise” =~ /(tr|is)/
      puts “found #$1”
      else
      puts “missing #$1”
      end
      OUTPUT =

   d. a = { }
      a[1] = “tesudo”
      a[“Chelonii”] = 2
      a.keys.each { |x| puts x }
      OUTPUT =
3. (5 pts) Write a Ruby method `find_course_num` that given a string `str`, uses regular expressions and back references to find the first course number in the string. A course number has 4 uppercase letters, followed by a 3 digit number. The method should return the course number as an integer value, or `nil` if no course number is found.

Examples:

<table>
<thead>
<tr>
<th>Method Call</th>
<th>Return Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>find_course_num(&quot;CMSC131 CMSC330&quot;)</code></td>
<td></td>
</tr>
<tr>
<td><code>find_course_num(&quot;CMsC131 CMSC330&quot;)</code></td>
<td># returns 330</td>
</tr>
<tr>
<td><code>find_course_num(&quot;CMsC131 CMS330&quot;)</code></td>
<td></td>
</tr>
</tbody>
</table>

4. (5 pts) Write a Ruby method `print_str_array` that given an array of strings, uses the `Array.each` method and a code block to print out each string on a separate line, prefixed by the index of the string in the array, separated by a single space.

Examples:

<table>
<thead>
<tr>
<th>Array of Strings</th>
<th>Output</th>
</tr>
</thead>
</table>
| ["terrapin","tortoise","turtle"] | 0 terrapin  
|                  | 1 tortoise  
|                  | 2 turtle   |