IN628 Programming 4
Semester 1, 2020

Ruby Assessment Preparation Checklist

Your assignment program must be written in "idiomatic Ruby". Before you can begin implementing it, therefore, you will need to study Ruby. While you don't need to be (and cannot reasonably be expected to become in the next few weeks) a Ruby expert, you will need to understand core Ruby features, especially those that are substantively different from the traditional imperative languages that you have used before.

This document provides a checklist of language features you should know, questions you should be able to answer, and code examples you should understand before beginning to design and implement your assignment. Not all of the specific elements described here will be required in your implementation, nor is everything you need to know listed here. However, when you can complete the checklist, you will have done enough preparation to be able to begin.

1. Describe the following features/elements:

1	blocks	11	.dup
2	iterators	12	.count
3	interpolation	13	.all?
4	yield	14	.include?
5	unless	15	%w
6	.inspect	16	attr_reader & attr_writer
7	.times	17	@var_name and @@var_name
8	.each	18	$stdout.flush
9	.collect	19	print vs. puts
10	.split, .scan, .squeeze, .chomp, etc.	20	nil

2. Answer the following questions:

1	Why do people say that "Ruby is a pure OO language", as opposed to Java, C++, etc., which are not considered "pure OO"?
2	What is the syntax for method calls with 0 arguments?
3	What are the rules about use of the return keyword in functions that return a result?
4	What does it mean if a function has '!', '?', or '=' on the end of its name?
5	How do you read from a text file?
6	How do you populate an array from a text file (each line as an element in the array)?
7	How do you randomly select an element from an array using idiomatic Ruby?

8	How can you add elements to an array (increasing the size of the array) using idiomatic Ruby?
9	How can you get user input from stdin?
10	How do you iterate over the individual characters in a string using idiomatic Ruby?

3. Describe what each of the following code snippets are doing:

1	"abc".length.times do print "bob\t" end
2	(0..11).each_slice(3) { |n1, n2, n3| puts n1 + n2 + n3}
3	puts (10..20).collect {|num| num * num}.join('..')
4	%w{Amsterdam Berlin Cromwell}.reverse_each do |city| puts city.reverse end
5	letters = 'a'..'h' doubleLetters = letters.each.collect {|d| d.succ} puts doubleLetters.inspect doubleLetters.each {|db| puts db.upcase}

6	def yield_three_times_with_arg(arg)
	  yield arg
	  yield arg
	  yield arg
	end
	yield_three_times_with_arg("bob") {|arg| print arg.upcase}
	yield_three_times_with_arg("bob") {|arg| print arg.capitalize}

7	def mystery_method(inputString) inputString.split('').all? {|c| inputString.count(c) == 2} end puts mystery_method("hannah") puts mystery_method("banana")