CSE 341 — Ruby Discussion Questions

1. What do the following Ruby expressions do?

   x+2
   octopus.swim("fast")
   octopus.swim "fast"
   octopus.tentacles = 8
   Aquarium.new("clownfish")

   ["clown", "fish"].each { |s| puts s}
   [1,2,3].map { |j| j*10}

   sum=0
   4.times {sum=sum+10}

2. Write a Ruby class `Book`, which has fields for title and author. When you create a new instance of book you should give values for those fields. Also define getters (but not setters) for them. Finally, write a statement that makes a new instance of `Book` with a suitable author and title.

3. Write a class `Delay` that implements delays (like the delay function in Scheme). The following code shows how it should work:

   n = 0
   d = Delay.new {n=n+1; 3+4}
   d.force
   d.force
   v = d.force
   e = Delay.new {1/0}

   After we evaluate these statements v should be 7, but n should only be 1 (since we only evaluate the block once). Further, since we never force e, we shouldn't get a divide-by-zero error.

4. Write a `min` method for the `Enumerable` mixin. You’ll need to decide how to handle finding the minimum of an empty collection. Bonus points for handling this in the same way Ruby itself does!

   Hint: look at the implementation of `map` at the end of the `inheritance.rb` handout.

5. Consider the class and module definitions in `self_super.rb` linked from the 341 Ruby web page. Suppose we define a class `C5` as follows:

   ```ruby
   class C5 < C1
       include M2
   end
   ```

   What is the result of evaluating these expressions?

   x = C5.new
   x.test1
   x.test2
   x.kind_of?(C5)
   x.kind_of?(M2)
   x.kind_of?(M1)
   C5.ancestors
   C5.superclass
   C5.superclass.superclass
   C5.superclass.superclass.superclass