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## Exercise 2

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### Exercise 2

10 points possible (graded)

**ESTIMATED TIME TO COMPLETE: 18 minutes**

This problem will ask a series of questions about generators.


1. Thinking about the `genPrimes` generator from the last problem, which of the following can be done only by using a generator, instead of defining a function (that uses any type of construct we've learned about, except generators)?

☐ Return 1000000 prime numbers☐ Print every 10th prime number, until you've printed 20 of them☐ Keep printing the prime number until the user stops the program☐ Everything that can be done with generator can be done with a function

2. Every procedure that has a `yield` statement is a generator.

☐ True☐ False


## 9. Classes and Inheritance

Finger Exercises 

## 10. An Extended Example

Finger Exercises 

### Problem Set 5

Problem Set due Mar 2, 2017 15:30 PST 

► Week 6:  
Algorithmic Complexity

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3. If a procedure has only one `yield` statement, but that statement will never be executed, then the procedure is not a generator.

☐ True

☐ False

4. If we were to use a generator to iterate over a million numbers, how many numbers do we need to store in memory at once?

☐ 1

☐ 2

☐ 1000

☐ 1000000

☐ Don't need to store anything in memory

For the following tasks, would it be best to use a generator, a standard function, or either?

1. Finding the nth Fibonacci number

☐ Generator

☐ Standard function

☐ Either a generator or standard function is fine



## 2. Printing out an unbounded sequence of Fibonacci numbers

☐ Generator☐ Standard function☐ Either a generator or standard function is fine

## 3. Printing out a bounded sequence of prime numbers, where the prime numbers are successively computed by division by smaller primes

☐ Generator☐ Standard function☐ Either a generator or standard function is fine

## 4. Printing out an unbounded sequence of prime numbers, where the prime numbers are successively computed by division by smaller primes

☐ Generator☐ Standard function☐ Either a generator or standard function is fine

## 5. Finding the score of a word from the 6.00x Word Game of Pset 4

☐ Generator

☐ Standard function☐ Either a generator or standard function is fine

6. Iterating over a sequence of numbers in a random order, where no number is repeated

☐ Generator☐ Standard function☐ Either a generator or standard function is fine

## Exercise 2

Topic: Lecture 10 / Exercise 2

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