Object-Oriented Software Development
Project 1 — Due: Tuesday, January 31

In this project you are to provide three classes that implement the interface

```
interface NumGenerator
{
    int nextNum();                  // return next number in sequence
    int [] nextKNums(int k);        // return next k numbers in sequence
    int nextDivisibleBy(int d);     // return next number in sequence
                                    // where number is divisible by d
}
```

and write a public class, Tester, that tests your implementations.

Three implementations of NumGenerator, which each produces an increasing sequence of numbers:

1. OddNums produces the values 1, 3, 5, 7, 9, 11, ….

2. EvenNums produces the values 0, 2, 4, 6, 8, 10, ….

3. RandomNums produces an increasing sequence of random nonnegative integers. Randomly select each number from the next 100 available numbers. For example, choose the first number from the range 0 to 99. If the first number chosen is 17, then choose the next number from the range 18 to 117, and so on.

Note: If an even number is passed to nextDivisibleBy() as implemented by OddNums, return -1 but continue the increasing sequence as before with subsequent requests.

In the Tester class, use a class method printN(int n, NumGenerator ng) that prints on one line the next n values produced by ng. Show that numbers can be generated from each sequence in several different ways.

Your discussion instructor will describe how you will submit your program electronically.

Your program will be graded on the correctness and clarity of your code.