Project Euler Problems 1 & 2

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Welcome to your very first programming assignment for Java. For this assignment, we'll be solving the first two problems from Project Euler. Project Euler is a wonderful site, filled with many math and logic puzzles you will need a computer program to solve. Some, like the first two, can serve as a great test of understanding the fundamentals of a programming language. You can find the problems at projecteuler.net and you can create an account to confirm your answers.

I have copied the problems below.

1 Problem 1: 65 points

If we list all the natural numbers below 10 that are multiples of 3 or 5, we get 3, 5, 6 and 9. The sum of these multiples is 23. Find the sum of all the multiples of 3 or 5 below 1000.

1.1 Comments

This is a great problem! To solve it, you will need to use a loop, a conditional statement with logic, modular arithmetic, and a running sum.

2 Problem 2: 35 points

Each new term in the Fibonacci sequence is generated by adding the previous two terms. By starting with 1 and 2, the first 10 terms will be:

$$1, 2, 3, 5, 8, 13, 21, 34, 55, 89, \ldots$$

By considering the terms in the Fibonacci sequence whose values do not exceed four million, find the sum of the even-valued terms.

2.1 Comments

Another good problem! It will need much of the same techniques as the previous problem. My hint to you: you don't know how fast the values will grow, so you might find it much easier to use a while loop.