Programming Test

In order to help us assess your programming skills and literacy, we ask you to submit some sample code for us to evaluate. You have 72 hours to complete this assignment.

Project Euler (http://projecteuler.net/problems) is a collection of math-oriented problems, most of which can be solved by writing a small piece of code. Your task is to complete number 107 and submit code that gives the correct answer to the problem.

You can choose the language you use to write your solution. We would prefer if you use one of the languages we are mostly using in production today, namely Python, Ruby, or Go, but we will also accept solutions using C, C++, Rust, or JavaScript if you are more comfortable in one of these.

The code should be runnable directly in a Docker container and output the answer to the question as well as indicate the execution time of the computation.

Write your code to the same standard you would use for production code. Performance is important, but not all-consuming. The general rule on Project Euler is that solutions should take less than one minute of clock time to execute. Optimizing your solution from 100ms to 50ms is generally NOT a good tradeoff if it causes the code to become more opaque.

Commenting style and test methods are very much part of the exercise. Clarity of code – thus facilitating review and maintenance – is also very important.

Although the Project Euler site itself is designed so that you can't see the solutions of others until you have submitted a correct answer yourself, there are a variety of blogs and other sites on the internet that give solutions. Good programming practice builds on the work of others, so looking at other references to understand algorithms is perfectly acceptable.

However, copying a solution verbatim from someone else is not in the spirit of the exercise. Also many of the published solutions are optimized for goals other than clean, production-oriented code. If you choose to use any published code as part of your solution, make sure that any appropriate copyrights and other legal notices are included.

You should include with your solution:

- A sample of the output
- A description of the process you followed in solving the problem
- What reference sources you used, if any
- How much time you spent on the exercise

Please provide us with a link from which we can download your solution, e.g. GitHub, your own web site.