

A Foray into Rust: Euler One

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As a programmer, I am long in the tooth. I started out with **FORTRAN**, went on to **Forth**, and settled with **C** through three decades or more. Later, it was **MATLAB** and **Octave** for high level computing. For scripting, I used **Perl** or **bash**. **Python**, the current darling of programmers, is an **unknown bourne** to me.

So why did I choose **Rust** as the new programming language to learn? Rust is *the* emerging programming language, developed at **Mozilla** [1]. It has been consistently voted *the most loved* programming language in Stack Overflow Developer Surveys [2]. End-users, such as **scientists**, are turning to Rust when Python has proven inadequate for some reason [3]. And **corporate users** include Dropbox, Mozilla, Microsoft, npm, etc. [4].

But there are other, more personal, reasons as well. My previous bet on the future was on **Haskell**. I have tried many times to learn it, almost always giving up in despair, because I was put off by the unfamiliar notation, and its corpus of arcana, like **monads**, touted by the cognoscenti, as the way to tell the men from the boys. Enough about the why. Now for the how.

To learn the language, I decided to start by solving **Project Euler Problem One**, henceforth called *the problem*, using Rust. This is a chronicle of my first efforts.

Project Euler Problem One

The **statement of the problem** is simple and pellucid:

Multiples of 3 or 5

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.

Feedback

Please **email me** your comments and corrections.

A PDF version of this article is **available for download here**.

References

- [1] —, ‘Rust’. Available: <https://research.mozilla.org/rust/>. [Accessed: Aug. 01, 2021]
- [2] Jake Goulding, ‘What is rust and why is it so popular?’, Jan. 20, 2020. Available: <https://stackoverflow.blog/2020/01/20/what-is-rust-and-why-is-it-so-popular/>. [Accessed: Aug. 01, 2021]
- [3] Jeffrey M Perkel, ‘Why scientists are turning to rust. Despite having a steep learning curve, the programming language offers speed and safety.’, Dec. 01, 2020. Available: <https://www.nature.com/articles/d41586-020-03382-2>. [Accessed: Aug. 01, 2021]
- [4] Gints Dreimanis, ‘9 companies that use rust in production’, Nov. 08, 2020. Available: <https://serokell.io/blog/rust-companies>. [Accessed: Aug. 01, 2021]