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### 331 Project: Ruby 1.9.2

Ruby is a dynamic, reflective, and object-oriented programming language developed by Yukihiro Matsumoto in Japan. It has been influenced by other languages such as Perl, Smalltalk, and Lisp. Some of the key features of Ruby include duck typing, modules, and its property where everything is an object. According to the creator, this language was conceived in 1991 and released for general use in 1995. For this project, I programmed in Ruby 1.9.2, the Ruby version currently on GL.

The conception of Ruby was in 1991, where creator Matsumoto decided he wanted to create an easy to use object-oriented language like Perl but had the sophisticated features of an advanced language. Matsumoto was aware of Python at the time, however he was not keen on using it due to its lack of true object-orientated capabilities. When he could not find a language that supported all his needs, Matsumoto decided to create his own language. The name “Ruby” come from a chat session between him and a colleague. The first release of Ruby, Ruby 0.95, debuted on December 21, 1995 in Japan. 1999 signaled the first English language Ruby. As of 2018, Ruby has been released up to version 2.5.

Ruby is an open-source, general-purpose language that is intended to be user-friendly. It has an extremely clean design with none of the clutter of other languages while still maintaining

a level of advanced features. True to Matsumoto's philosophy, Ruby puts the user first and its evident in its user interface. There is an elegance to Ruby that few languages possess. Where it might take some languages several lines to define a method, Ruby will be able to do it in one or two. Ruby is a true object-oriented language where everything is an object. Every line is considered an expression, even declarations. The syntax is similar to Python, which was one of the reasons I chose this language for the project. The package manager is delegated to RubyGems, where packages are known as gems that are easily installable.

I was able to do most of the project in two days, including the time it took to learn Ruby. I enjoyed learning Ruby and programming it due to the similarities in syntax with Python. The only part of the project I had some difficulty with was problem 4 which was not due to the language but my lack of knowledge of terminal manipulation. For problem 5 especially, I had an easy time manipulating the matrix because of Ruby's matrix library. Otherwise, I would have had to create a 2D array where column manipulation would have been a chore. Ruby had several functions that were easy to use and more importantly, easy to understand, which helped facilitate my understanding of the language. A problem I encountered was in problems 4 where my `rand()` function did not work properly when I tried finding a random number in a range. It worked fine on my IDE but when I tested it on GL, it failed to run. I found a workaround, but it felt inconvenient to use because of its convolutedness, something I admired Ruby for not having.

I had a positive experience with Ruby during my time working with it. I would recommend this language to anyone. Out of all the languages that I have had to learn during the course of 331, I feel like Ruby was my favorite. It was simple and elegant, a trait which I find desirable in a programming language.

Work Cited

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