The Comparison of Speed and Memory allocation between Jython and Python

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Time

Memory

Introduction

Background

A programming language is a way for us computer scientist to communicate to machines. This communication allows us to make the apps that are on your phone, the many different apps that help run businesses, and many other task.

Programming Languages

In the industry, there are many different programming languages that are used. Each one used for different reasons and accomplishes different task differently. Two popular programming languages are Python and Java. Each language has code that is broken down into a language that can be read by the machine. Both languages run their code in something called a Virtual Machine. This is like a fake machine that runs this code and gives us the result that we need.

Question

Java created an implementation of Python that can use Python code and run it in Java's Virtual Machine with some exceptions. This programming language is called Jython. Jython is written like python code but can implement Java code within it. The question that is raised is "Can Jython produce results that are faster and take up less memory than Python can?"
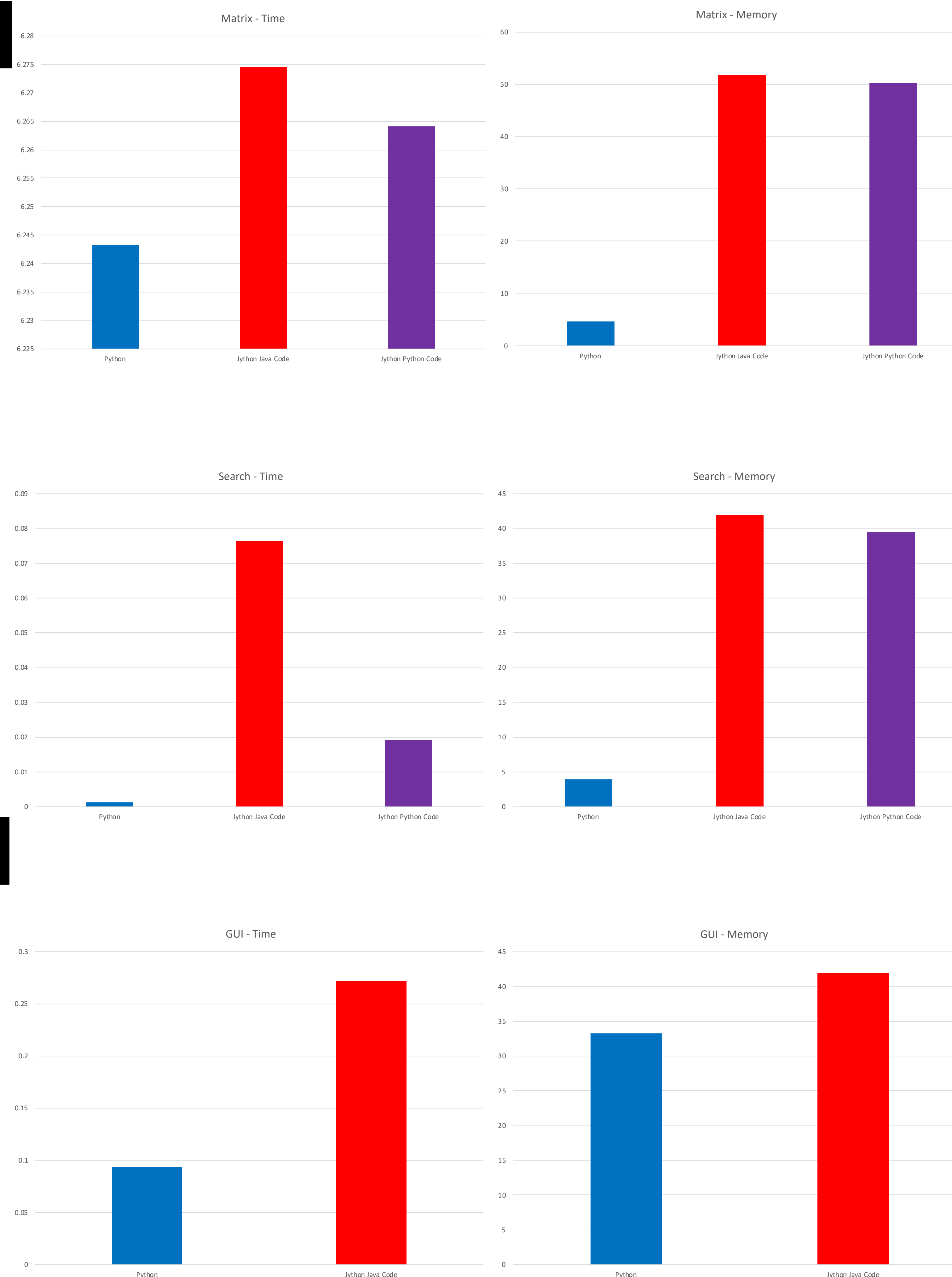
Method

Overview

The premise of this study is to see if Jython can run faster and use less memory than Python. Under these circumstances, 3 different applications were created to test time and amount of memory used.

In this study, each program is ran under three different conditions. The first condition is ran in Python. The second condition is running the same code in Jython but implementing Java classes within it. The last condition is running Jython using the same exact code as the Python code. In each of these programs, the time and amount of memory is measured.

Matrix

This program simply reads in hundred by hundred numerical values and organizes them from smallest to largest.

Search

This program was created to search a file for a specific city.

GUI

This creates a general user interface. This is anything that you normally see when you open an application. A good example is your internet browser or a notepad.

Conclusion

From the results, Python can run code faster and use less memory space. In each case, Python performed much faster as well as use a lot less memory. In some cases it used ten times less memory than Jython did.