North South University

Department of ELECTRICAL AND COMPUTER SCIENCE
ASSIGNMENT REPORT
COURSE: CSE-425
SECTION-05

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Introduction

This report covers a task on composing search programs on a given dataset of Nature of Work. The item indicates information of various Industries, Level, Value etc. We composed same hunt program in three distinctive programing language, which are Python, UNIX shell Script and Java.

Program will request that client pick between three sorts of pursuit technique

Subsequent to choosing strategy client needs to give the year, month, or day as a contribution to view want result.

While doing the task we saw the distinction in configuration highlights and configuration issues among python, java and slam shell content.

Python:

a. Short, simple and very precise syntax.
b. Since python is an Interpreted language it took more time than bash but still efficient.
c) Python is well structured language and has a built in csv module which helped reduce human effort.

C++:

a) Moderately short and somewhat simple syntax.
b) Less powerful than bash in terms of efficiency but still efficient.
c) All the logic behind the code was created manually using arrays and accessed using built in (.contains()) method.

Bash Shell Script:

a) Short, simple and precise syntax.
b) Powerful and efficient with least time deficiency
c) Used grep access and retrieve data.

Time complexity:

For time complexity of search program is a O(n) in terms of Python , java and shell script. Each three programing language will give the same time complexity. Big- O n order because any search algorithm will take order n running times.

Key Differences between Python versus Shell Script

Shell Script	Python
Is a Linux/Unix shell command language	Is an object-oriented programming (OOP) language, so it's more general purpose than Bash
Is great for writing shell scripts that use command line interface (CLI) utilities, utilizing output from one command to another (piping), and executing simple tasks (up to 100 lines of code)	Can we used for almost any task
Can utilize command-line commands and utilities as-is	Works on most major operating systems and is also installed by default on most Unix/Linux systems
Has better startup time than Python but poor execution time performance	Is very similar to writing pseudo code
Does not come preinstalled in Windows; your script might not be compatible with multiple operating systems, but Bash is the default shell on most Linux/Unix systems	Has simple, clear, easy-to-learn, and easy-to-read syntax
Lacks many functions, objects, data structures, and multi-threading, which limits its use for complex scripting/programming	Applications (or scripts) can contain many third-party dependencies that must be installed before executing them
Lacks good debugging tools and utilities	Requires writing more lines of code for simple tasks than Bash does

Key Differences between Python versus C++

The Key Difference between Python and C++, are clarified in the underneath referenced focuses:

- Each substance in Python is treated as an item; be it in or skims that live in a pile. The substances on stacks are for the most part the factors names which have their references to the store.

- Python has less in reverse similarity though C++ is progressively perfect with the framework being used.

- Python projects result as a lot shorter long in contrast with code in C++ that empowers quick prototyping and results in speedier coding rate.

- C++ is finished, in view of the parallel that utilized existing libraries to play out the coding tasks.

- Python has the adaptability while calling capacities and restoring their qualities.

- C++ utilizes compiler for the gathering of the code.

- Python when runs, utilizes a mediator.

- A wide assortment of utilizations use C++ to be created.

- Python approaches the API of a wide assortment of uses dependent on 3D.

- Python is a simple to-utilize programming language in contrast with C++.

- Python is slower than C++.

- Python helps in quicker application advancement and continue presenting extra language highlights.

- Composing code in C++ isn't as simple as in python because of its mind boggling language structure.

- Python is simpler to utilize and composing code as a result of its inviting punctuation.

- Python has inbuilt, prepared to utilize libraries that are more easy to use for learning and usage.

- Two numbers when separated into Python brings about buoy (while bringing in division from_future_) though in C++, throwing should be executed to accomplish this usefulness.

- Serialization on items can without much of a stretch be accomplished in Python utilizing its pickle. Recoveries () technique which is a progressively relentless undertaking to perform in C++.

- Python broadens support for a total arrangement of reflection includes through which it is conceivable to emphasize over the class strategies, individuals and so on.

- Python's has a bigger standard library than library accessible in C++