Comparison between C++, Python and Shell Script:

The assignment was to read a file and search respected data using C++, Python and Shell scripts. Comparison of above-mentioned language is in below.

Python and C++ are the programming languages used for general purpose but both Python and C++ languages differ from each other in many ways. Shell Script is a Scripting language. C++ is originated from C language with multiple paradigms and provide the feature of compilation. Python has a design philosophy that emphasizes code readability, notably using significant whitespace. Shell script is a computer program designed to be run by the UNIX shell, a command-line interpreter. The various dialects of shell scripts are considered to be scripting languages.

Length:

Compare to Python and Shell Script, C++ need to write bigger Code. For the given assignment C++ needs 59 lines of code where python needs 37 lines of code. On the other hand, Shell script needs only 14 lines of code and it requires only 2 lines of command to run. Shell Script are cool language to code.

Readability:

In terms of readability, C++, Python and Shell Scripts are almost similar. All features of these three languages maintain multiplicity. The difference is - Shell scripts require $ sign before its variables and other doesn’t need that. There is no Boolean data type for Shell Script. C++ has dedicated data type for Boolean and Python uses bool() function to cast to Boolean. Python uses indentation whereas C++ uses curly braces.

Writability:

Methods or functions are represented in C++ at this way – modifier returnType nameOfMethod (ParameterList)
{
//method body
}

In python –
def functionName():
#functionBody
#have to maintain indentation

In Shell scripts – function
function_name()
{
#method body
}

Reliability:

Only C++ has strongly typed type checking. Both Python and Shell scripts are loosely typed.

Performance:

Searching was very fast in shell scripting than Python and C++. Python was faster than C++ too. C++ came out third in case of performance.