ASSIGNMENT 1 – Shell Programming REPORT

# Group members

GROUP for Assignment 1 - 45

Nithin Krishna Vadde

Vamsi Bhargav Kamuju

# Discussion

Firstly, the major commands and steps undertaken during the assignment included the implementation of a "while" loop with "getopts" to capture user input options. This was followed using the "shift" command, which moved to the first non-option argument, typically representing the filename. Conditional statements were employed to determine whether to read the log data from a file or directly from standard input. The parsing, filtering, and processing of log data were efficiently executed using AWK, which involved reading and processing the log while specifying the actions to perform on the data. Additionally, sorting and grouping algorithms were applied effectively to provide the requested statistics from the log data.

The first challenge that we faced during the assignment is in the 'bytes\_sent' case. It must calculate the sum of bytes sent by all the IP addresses and then sort it. This problem has been solved with a planned approach. Firstly, by using AWK we filtered out log lines with HTTP status code 200 and extracted IP address and bytes sent. Then again, we used AWK for grouping the data by IP address and calculating sum of bytes sent. Finally, we sorted the output by sum of bytes in reverse numeric way to attain the desired results.

Another challenge that we overcame is to put both main program logic and user input options under the same switch case. Managed each in two different case blocks so that it would have been easier for me to manage the flow. Initially, we tried the same in a single case statement, but it was quite tricky to put both into one. So, we thought of managing them separately using two switch cases. One to capture the user's option input using "getopts" and accordingly setting the variable "option". The second noted "switch case" above actually handled processing of log data based on the selected "option" thereby making the code more organized and readable.

In conclusion, this assignment gave us experience of working on shell scripting and problem-solving.