ASSIGNMENT 1 REPORT: Programming in UNIX

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Initial Problems) Initially to decipher the optional arguments, we looked into the first argument "-n" and stored the second argument in a variable and shifted the position to the mandatory arguments. To do so we used "shift" -command.However, we could not get it right in the shell script and Associated arrays have also led to disappointment. We have then completely written the code in bash script. Most of the problems we faced were solved gradually when the script was rewritten in bash command.

1. We faced a problem with the 'awk' command initially to parse through the log file. In some cases we couldn't derive a correct output so, we have used the 'grep' command in some cases and awk in some cases where it worked without any errors.

2. To parse through the IP addresses in the first question we have defined a grammar 'Eo '[[:digit:]]{1,3}\.[[:digit:]]{1,3}\.[[:digit:]]{1,3}\.[[:digit:]]{1,3}')', which separates the addresses in the log file and use this data to count and sort the IP addresses.

3. To find the successful attempts we have defined a grammar "HTTP\/ [0-1]\.[0-9]\" [2][0-9][0- 9]" which separates the successful attempts and then count the number of successful attempts for a respective IP address.

4. To find the most common result codes we have used a similar grammar which will store all the codes and then keep count of the result codes. So we can find the most common code for a given IP address.

5. To find the most failed result codes, we have defined a grammar "HTTP\/[0-1]\.[0-9]\" [4-5][0- 9][0-9]" where the result codes are in the form of 4XX or 5XX which implies that it is a failed connection.

6. To find the total number of bytes consumed by an IP address we have sorted the log file using the command " sort -k 1,1" which will bring all the similar IP's together. Then we use the 10th column of the similar ip's which contains the number of bytes and find their sum which gives the total number of bytes sent from the IP address.