Lab 4 – Description of Program Writeup

Emma Chan (20206641)

Jake Moffat (20212243)

The goal of this lab is to create a script that can split the traces generated by lab 2 into separate files and summarize the time span of each of the traces. First, we had to write a script that can separate the output from each of the threads into a separate file. At the end of each file, we added a single line that indicates the total time span of the file. Then, the reader and printer traces need to be extracted. To do this we need to ensure that directories exist, and the exit status will return 0 if the condition is true and 1 if it is false. Then a grep command is used to extract the lines that start with a variety of sequences followed by an R. This data will be saved in a new file. This code is shown in lines 7-30 and 43-49 of the logsplit file.

Next, we need to determine how many monitors are represented in the trace file. There are 3 monitors for the lab2_3mons files and 4 monitors for the lab2_3mons files. We need to change the grep command used earlier for each sequence, followed by a number between 0 and 5. Then we use the command cut in the code to extract the 8th byte on every line that grep returns in the output file. Next, the output needs to be sorted into a list of unique numbers, which was done by using the sort command with the unique options using the command uniq. This outputs a list of numbers from the monitors in order, one on each line. Finally, using back quotes (`), we assigned the values using a for loop, extracting the lines for the monitor into a file. This is all done in lines 68-79 in logsplit file.

In the final step, we use the head command to retrieve the first line of a file and then the tail command for the last lines. These are used in the code alongside the cut command to extract the useful portions of the time stamp to create a single value that represents the time span. This was done in lines 33-40 and 53-60 in the logsplit file.