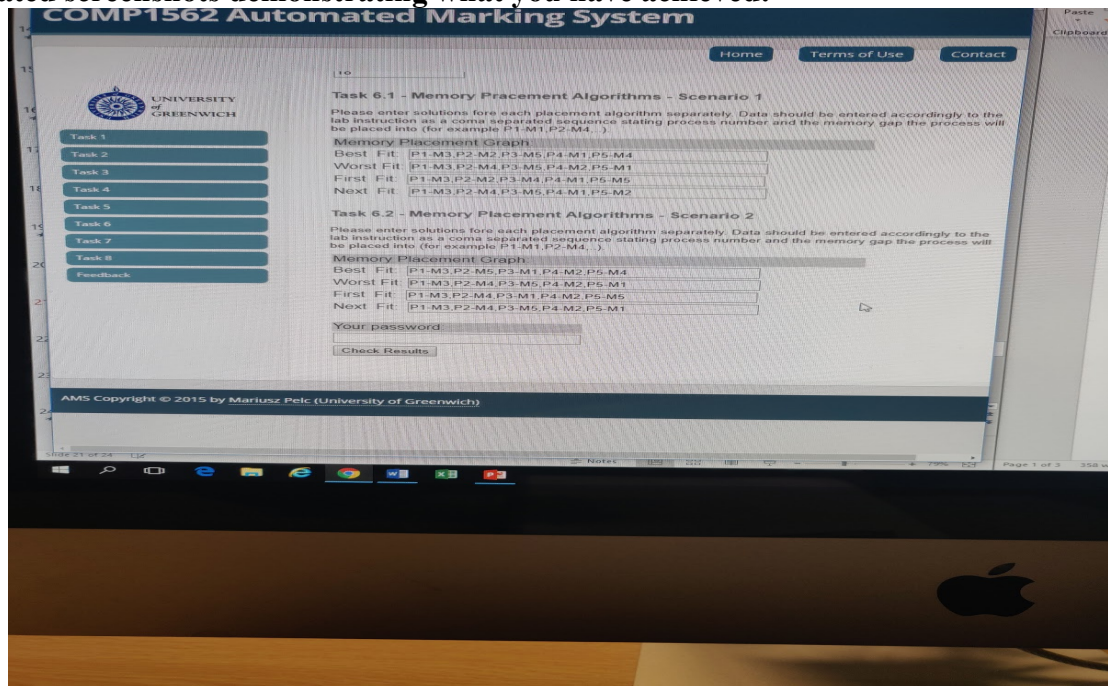


COMP1562 Logbook (Week 6)

Basic Information

1.1	Student name	Trevor Kiggundu (001001720)
1.2	Who did you work with? Name and/or id	Maruf Hoque (001006731)
1.3	Which lab topic does this document relate to?	Memory placement algorithms
1.4	How well do you feel you have done?	I have completed the exercise and am totally satisfied with my work.
1.5	Briefly explain your answer to question 1.4	My group and I were able to successfully follow and complete the tasks. Proof of that is shown below.

Annotated screenshots demonstrating what you have achieved:



TASKS:

For tasks 6.1 and 6.2, we had to carry out the different types of memory allocation algorithms. This included the four placement algorithms; first fit, best fit, next fit and worse fit.

For the first fit algorithm, we had to use the very first location in which the process will fit. This will execute the process quickly. However, due to the fact that it needs to search to find a free block, it is not the most time-efficient method. The memory placement for the first fit algorithm in tasks 6.1 and 6.2 are:

P1-M3,P2-M2,P3-M4,P4-M1,P5-M5

P1-M3,P2-M4,P3-M1,P4-M2,P5-M5

For the best fit algorithm, we had to use the block closest to the process size. This is by far the most efficient method since it will utilise all the space and not waste any memory fragments. However, the process to find the blocks is very slow since it requires searching all free blocks. This can bottleneck the performance. The memory placement for the best fit algorithm in tasks 6.1 and 6.2 are:

P1-M3,P2-M2,P3-M5,P4-M1,P5-M4

P1-M3,P2-M5,P3-M1,P4-M2,P5-M4

For the next fit algorithm, we had to use the next location available in which the process can fit. This means the process will be the fastest with this algorithm since it's not searching by size. However, it is not memory-efficient. The memory placement for the best fit algorithm in tasks 6.1 and 6.2 are:

P1-M3,P2-M4,P3-M5,P4-M1,P5-M2

P1-M3,P2-M4,P3-M5,P4-M2,P5-M1

For the worst fit algorithm, we had to use the largest memory block available. This method leaves the largest fragments, therefore making it the least efficient. The memory placement for the best fit algorithm in tasks 6.1 and 6.2 are:

P1-M3,P2-M4,P3-M5,P4-M2,P5-M1

P1-M3,P2-M4,P3-M5,P4-M2,P5-M1

Personal Reflection:

This week's task was a relatively easy one as well. Just like the previous week, we were required to simulate algorithms to monitor the end result. I was confused about the task at first, but after consulting with my group member we were able to complete task 6.1. Task 6.2 was a bit tricky solely because of the fact that I did not realize that I had left some extra spaces in our scriptcheck solution. However, it was an easy fix and we were able to collect the full marks. I enjoyed the fact that the task made use of previous tasks, (using concepts such as memory registers, locations and process handling; these helped to efficiently introduce us to concepts such as memory allocation. I am happy with our performance this week and look forward to revising during skills week. I am confident that I have furthered my understanding of operating systems and look forward to learning more.