This exam is CLOSED BOOK, CLOSED NOTES, CLOSED HOMEWORK

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1. Put your name on this document in the space provided
2. Answer each of the items in this document on these pages
   1. Spelling, grammar, punctuation, sentence structure, etc. **will** affect your grade
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Chapters 1 - 4

Complete on this Microsoft Word® document.

1. Discuss a few Memory Management algorithms. Be sure to discuss how they make decisions as to where to put processes or files, their advantages and their disadvantages. (20 points)

There are different types of memory management algorithms. The two most common and well-known algorithms for memory management are FIFO (first in and first out) and LRU (least recently used). The FIFO is the best policy to page in the longest memory slot while LRU is the best policy to use for the most recent and recently accessed. The failure rate of the FIFO is when the ratio of the page interrupts to pages requests and the performance is not guaranteed. It is not guaranteed because the FIFO is the most used policy, and it receives so much action and the more memory it receives the performance and accessing the memory might not be sufficient. LRU is very efficient because it can decrease the number of interrupts it takes along its path. I remember from doing the exercise in the book for the FIFO question that there is a FIFO page replacement policy. I don’t remember what that policy is but I am assuming it has to do if the FIFO loses a page in the process of looking for memory there is a way to retrieve the information.

1. Discuss fragmentation. Be sure to discuss both internal and external fragmentation. (15 points)

There are two different types of fragmentation internal and external. Internal fragmentation is used by the program with the remaining spaces within the program the partition is not available to another job which becomes a problem because if you can’t use it for another job then it ends up being a useless or wasted part of the fragmentation. External fragmentation allows the memory to create the unusable pieces of the free memory between the different blocks. With internal and external fragmentation there is also deallocation. Deallocation is freeing up resources which then leads to space that can be used for internal and external fragmentation. Allocation has different types of methods First fit and best fit.

1. Discuss paged memory. (15 points)

Page memory is a form of allocation. Its job it to divide a user’s job or task into equal sections for the program to be executed. It determines the number of pages. There are different tables that go with page memory allocation: Job Table (JT), Page Map Table (PM vital information for the page) and Memory Map Table (MM). The memory manager asked for a certain amount of memory its job is to locate blank pages which can be found within the main memory of a system. I had stated earlier that dividing the memory into equals parts is extremely important because you want the memory to go through and find its best place as fast as possible. If there is just one big ball of memory it might have a hard time of where it wants to go/try to go. It is more efficient when the size of the memory is all the same size in bytes. This is the best way to store a program within a system.