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Operating Systems

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Chapter 3 Exercise

1. Paged memory allocation is the scheme based on the concept of dividing a user’s job into sections of equal size to allow for noncontiguous program storage during executing. Segmented memory allocation is the scheme based the concept of dividing a user’s job into logical groupings of code to allow for noncontiguous program storage during execution. Some negatives for segmented is the way it must be a logical group so it can be normally based.
2. 85 bytes will be loaded onto the last page of the job because 126 can be fully used on 5 pages with the total being 630 with the remaining 85 will go on the last page.
3. Internal fragmentation is the situation in which a partition is only partially used by the program; remaining space within the partition is unavailable to any other job and is therefore wasted. External fragmentation is the situation the dynamic allocation of memory creates unusable fragments of free memory between blocks of busy or allocated and memory.
4. Page Map Table also known as PMT it is the main memory with the vital information for each page including the page number and its corresponding page frame memory address.
5. 126 x 3 = 378 it will take three full pages and then 93 bytes on the fourth page. Four pages will be needed.
6. 256 x 3 = 768 it will take three full paged with a remaining 242 bytes remaining on the fourth page. This job will need 4 pages to accomplish this job.
7. FIFO is known as the first in first out policy it is a page replacement policy that removes from main memory the pages that were first brought in. B would be the first page out because it has the most. A b c b d a e f b e d f
8. A c b d a c e a c b d e A will be the first out because it has the most.
9. a page replacement policy that removes from main memory the pages that were first brought in. B would be the first page out because it has the most.
10. Failure can be 50% because of the 3-page trace that uses for 6 full pages
11. Page
    1. Page 3
    2. Page 1
    3. Page 2
12. The software that would be the best to use in this situation would be something that can support LRU.
13. Has 504 remaining in the cache.
14. 2,329 remaining in the cache.
15. D. 900 words