Lab Three

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1 Problem One

1.1 Explain the difference between internal and external fragmentation.

Internal fragmentation occurs in fixed-size memory allocation. It refers to the unused memory in a fixed memory block. For example if each partition is 256 bytes and a process is loaded that is 56 bytes then 200 bytes are lost to internal fragmentation. External fragmentation refers to when there is enough free space in the partition, but the free space is not adjacent to each other. There are blocks of used space separating the free sections.

2 Problem Two

2.1 GIVEN FIVE (5) MEMORY PARTITIONS OF 100KB, 500KB, 200KB, 300KB, AND 600KB (IN THAT ORDER), HOW WOULD OPTIMAL, FIRST-FIT, BEST-FIT, AND WORST-FIT ALGORITHMS PLACE PROCESSES OF 212KB, 417KB, 112KB, AND 426KB (IN THAT ORDER)?

Optimal would put 212KB into 500KB, 417KB in the 600KB slot, 112KB in the 200 KB slot, and would either not save the 426KB process or split it up among the slots.

First fit would also do the same as optimal in this case and put 212KB into 500KB, 417KB in the 600KB slot, 112KB in the 200 KB slot, and would either not save the 426KB process or split it up among the slots.

Best fit would put 212KB in the 300KB slot, 417KB in the 500KB slot, 112KB in the 200KB slot, and 426KB in the 600KB slot.

Worst fit would place 212KB in the 600KB slot, 417 in the 500KB slot, 112KB in the 300KB slot, and would have to overwrite one of the slots for 426KB or just not save it. Not exactly sure what would happen I guess it varies based on the system.