CMPT 424 - Fall 2023 - Prof. Labouseur

Lab Three

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September 18, 2023

1 Explain the difference between internal and external fragmentation

External fragmentation is when the there is physical enough total memory space, but due to the way it is broken up it is unable to satisfy all request into a single block of memory. An example of this is if you need to store 75 bits of data, and there are two free memory locations each of 50 bits, on paper you have enough space. However, because these locations are not contiguous, you cannot store the data in a single block in memory.

2 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)?

First-Fit:
212KB into 500KB - 417KB into 600KB - 112KB into 500KB - 426KB into (Does Not Fit or would be broken up to fit in other spots).

Best-Fit: 212KB into 300KB - 417KB into 500KB - 112KB into 200KB - 426KB into 600KB (Only one that does fit the 426KB).

Worst-Fit: 212KB into 600KB - 417KB into 500KB - 112KB into 388KB - 426KB into (Does Not Fit or would be broken up to fit in other spots).