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1. Given six memory partitions of 300 KB, 600 KB, 350 KB, 200 KB, 750 KB, and 125 KB (in order), how would the first-fit, best-fit, and worst-fit algorithms place processes of size 115 KB, 500 KB, 358 KB, 200 KB, and 375 KB (in order)? Rank the algorithms in terms of how efficiently they use memory.

First-fit:

Process has size (KB)	Partition Put-in (KB)	Free holes (KB)
115	300	185, 600, 350, 200, 750, 125
500	600	185, 100, 350, 200, 750, 125
358	750	185, 100, 350, 200, 392, 125
200	350	185, 100, 150, 200, 392, 125
375	392	185, 100, 150, 200, 17, 125

Best-fit:

Process has size (KB)	Partition Put-in (KB)	Free holes (KB)
115	125	300, 600, 350, 200, 750, 10
500	600	300, 100, 350, 200, 750, 10
358	750	300, 10, 350, 200, 392, 10
200	200	300, 10, 350, 0, 392, 10
375	392	300, 10, 350, 0, 17, 10

Worst-fit:

Process has size (KB)	Partition Put-in (KB)	Free holes (KB)
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115	750	300, 600, 350, 200, 635, 125
500	635	300, 600, 350, 200, 135, 125
358	600	300, 242, 350, 200, 135, 125
200	350	300, 242, 0, 200, 135, 125
375	Wait	

Rank:

Best-fit hiệu quả nhất trong việc sử dụng memory, Còn worst-fit không đáp ứng được các process. First-fit chạy nhanh nhất.

2. Student write a short report that compares the advantages as well as disadvantages of the allocation algorithms, namely First-Fit, Best-Fit, Worst-Fit.

Algorithm	Advantage	Disadvantage
First-fit	Fast	Moderately suffers from fragmentation
Best-fit	Better memory utilization	Slower, creates more fragmentation
Worst-fit	Less fragmentation	Large processes might be not accomodated as the larger holes are filled