9.13

Given six memory partitions of 100 MB, 170 MB, 40 MB, 205 MB, 300 MB, and 185 MB (in order), how would the first-fit, best-fit, and worst-fit algorithms place processes of size 200 MB, 15 MB, 185 MB, 75 MB, 175 MB, and 80 MB (in order)? Indicate which—if any—requests cannot be satisfied. Comment on how efficiently each of the algorithms manages memory.

1. first - fit :

P_1 will be allocated to F_4. F_4 remains 5 Mb.
P_2 will be allocated to F_1. F_1 remains 85 Mb.
P_3 will be allocated to F_5. F_5 remains 115 Mb.
P_4 will be allocated to F_1. F_1 remains 10 Mb.
P_5 will be allocated to F_6. F_6 remains 10 Mb.
P_6 will be allocated to F_2. F_2 remains 90 Mb.

2. best - fit :

P_1 will be allocated to F_4. F_4 remains 5 Mb.
P_2 will be allocated to F_3. F_3 remains 25 Mb.
P_3 will be allocated to F_6. F_6 remains 0 Mb.
P_4 will be allocated to F_1. F_1 remains 25 Mb.
P_5 will be allocated to F_5. F_5 remains 125 Mb.
P_6 will be allocated to F_2. F_2 remains 90 Mb.

3. Worst - fit :

P_1 will be allocated to F_5, F_5 remains 100 Mb.
P_2 will be allocated to F_4, F_4 remains 195 Mb.
P_3 will be allocated to F_4, F_4 remains 10 Mb.
P_4 will be allocated to F_6, F_6 remains 110 Mb.
P_5 will not be allocated to anyone.
P_6 will be allocated to F_2, F_2 remains 90 Mb.

So, the worst - fit algorithms can not be satisfied.

And the best - fit algorithms is the best.

9.15

Compare the memory organization schemes of contiguous memory allocation and paging with respect to the following issues:

a. External fragmentation
b. Internal fragmentation
c. Ability to share code across processes

	Contiguous	Paging
External	Y	N
Internal	N	Y
Ability to share	N	N