2016402 최성원

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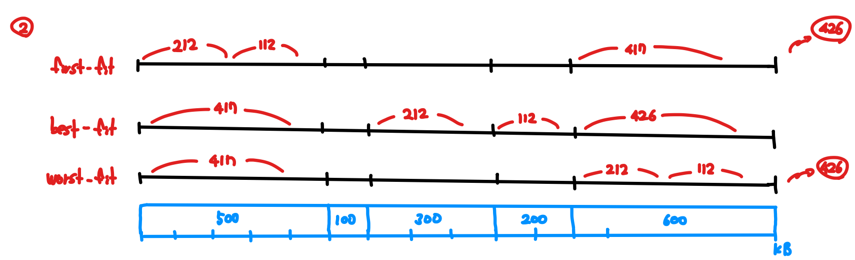
RED : Answer

HW#2. Virtual memory

1. Consider the page table for a system with 12-bit virtual and physical addresses with 256-byte pages. The list of free page frames is D, E, F (that is, D is at the head of the list E is second, and F is last). Convert the following virtual addresses to their equivalent physical addresses in hexadecimal. All numbers are given in hexadecimal. (A dash for a page frame indicates that the page is not in memory.)

Page	Page Frame
0	– E
1	2
2	C
3	A
4	–
5	4
6	3
7	– D
8	B
9	0

a. 0x9EF : 0x0EF
b. 0x111 : 0x211
c. 0x700 : 0xD00
d. 0x0FF : 0xEFF



2. Given five free memory partitions of 500 KB, 100 KB, 300 KB, 200 KB, and 600 KB (in order), how would the first-fit, best-fit, and worst-fit algorithms place processes of 212 KB, 417 KB, 112 KB, and 426 KB (in order)? Which algorithm makes the most efficient use of memory?

Best-fit algorism is most efficient.

3. Assuming a 2-KB page size, what are the page numbers and offsets (in decimal) for the following address references (provided as decimal numbers):
a. 2375 1 page number, 327 offsets
b. 19366 9 page numbers, 934 offsets
c. 30000 14 page numbers. 1328 offsets

2kB = 2×2^{10} Byte
= 2048 Byte

a. 2375

2375 / 2048 = 1 page
2375 % 2048 = 327 offset

b. 19366

19366 / 2048 = 9 page
19366 % 2048 = 934 offset

c. 30000

30000 / 2048 = 14 page
30000 % 2048 = 1328 offset