操作系统(D)

第 9 次作业

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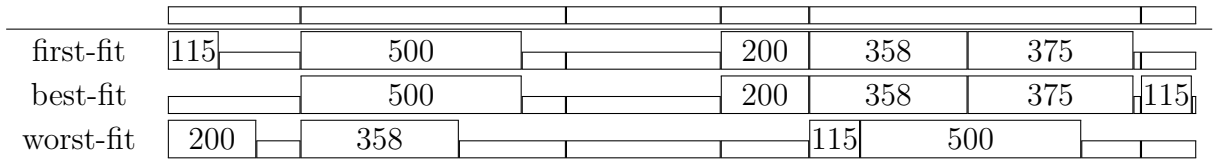
9.6 Given six memory partitions of 300KB, 600KB, 350KB, 200KB, 750KB,and 125KB (in order), how would the first-fit, best-fit, and worst-fit algorithms place processes of size 115KB, 500KB, 358KB, 200KB, and 375KB (in order)?

解.



worst-fit 中，375KB 无法分配。

9.7 Assuming a 1-KB page size, what are the page numbers and offsets for the following address references (provided as decimal numbers):

a. 3085

b. 42095

c. 215201

d. 650000

e. 2000001

解.

	地址	页码	偏移
3085	11 00 0000 1101	0x003	0x00D
42095	1010 01 00 0110 1111	0x029	0x06F
215201	11 0100 10 00 1010 0001	0x0D2	0x0A1
650000	1001 1110 10 11 0001 0000	0x27A	0x310
2000001	1 1110 1000 01 00 1000 0001	0x7A1	0x081

9.9 Consider a logical address space of 256 pages with a 4-KB page size, mapped onto a physical memory of 64 frames.

a. How many bits are required in the logical address?

解.

$$256 = 2^8$$

$$4\text{KB} = 2^{12}\text{B}$$

逻辑地址需要 20 字节。

b. How many bits are required in the physical address?

解.

$$64 = 2^6$$
$$4\text{KB} = 2^{12}\text{B}$$

物理地址需要 18 字节。

9.10 Consider a computer system with a 32-bit logical address and 4-KB pagesize. The system supports up to 512MB of physical memory. How many entries are there in each of the following?

a. A conventional, single-level page table

解. $2^{32-12} = 2^{20}$ 项。

b. An inverted page table

解. 倒置页表整个系统只有一个页表，并且每个物理内存的页只有一条对应的条目，所以共有 512M/4K = 128 项。