第8章 主存管理 作业

答题版本 2020.12.07 20:34　　试卷得分 100

1. 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)?

   请在下面空中依次填写答案。如果某进程能放入到空闲分区中，填写该分区的数字，如：100；如果某进程无法放入到空闲分区中，则填写：must wait

   First-fit:

   a. 200M process put in _____M partition
   b. 15M process put in _____M partition
   c. 185M process put in _____M partition
   d. 75M process put in _____M partition
   e. 175M process must _____M partition
   f. 80M process put in _____M partition

   Best-fit

   a. 200M process put in _____M partition
   b. 15M process put in _____M partition
   c. 185M process put in _____M partition
   d. 75M process put in _____M partition
   e. 175M process put in _____M partition
   f. 80M process put in _____M partition

   Worst-fit:

   a. 200M process put in _____M partition
   b. 15M process put in _____M partition
   c. 185M process put in _____M partition
   d. 75M process put in _____M partition
   e. 175M process _____M partition
   f. 80M process put in _____M partition

填空题 (18 分)　18 分　(请按题目中的空缺顺序依次填写答案)

(1) 205

(2) 100

(3) 300

(4) 100

(5) 185

(6) 170

(7) 205

(8) 40

(9) 185

(10) 100

(11) 300

(12) 300

(13) 300

(14) 205

(15) 205

(16) 185

(17) must wait

(18) 170

正确答案:

(1) 205

(2) 100

(3) 300

(4) 100

(5) 185

(6) 170

(7) 205

(8) 40

(9) 185

(10) 100

(11) 300

(12) 300

(13) 300

(14) 205

(15) 205

(16) 185

(17) must wait

(18) 170

2. Assuming a 1-KB page size, what are the page numbers and offsets for the following address references (provided as decimal numbers):
   请在下面空中依次填写十进制数值答案
   a. 3085 page numbers: _____ , offsets:_____
   b. 42095 page numbers: _____ , offsets:_____
   c. 215201 page numbers: _____ , offsets:_____

填空题 (18 分) 18 分 (请按题目中的空缺顺序依次填写答案)

(1) 3

(2) 13

(3) 41

(4) 111

(5) 210

(6) 161

正确答案:

(1) 3

(2) 13

(3) 41

(4) 111

(5) 210

(6) 161

3. Considering thesegment table, what are the physical addresses for the following logicaladdresses?

Segment	Base	Length
0	219	600
1	2300	14
2	90	100
3	1327	580
4	1952	96

What are the physical addresses for the following logical addresses?（Physical addresses = Segment Base Address + Offset）

请在下面空中依次填写十进制数值答案，如果是无效地址，请填写：**invalid**。

a. 0,430 Answer: _____

b. 1,10 Answer: _____

c. 2,500 Answer: _____

d. 3,400 Answer: _____

e. 4,112 Answer: _____

填空题 (20 分) 20 分 (请按题目中的空缺顺序依次填写答案)

(1) 649

(2) 2310

(3) invalid

(4) 1727

(5) invalid

正确答案:

(1) 649

(2) 2310

(3) invalid

(4) 1727

(5) invalid

4. The BTV operating system has a 21-bitvirtual address, yet on certain embedded devices, it has only a 16-bit physicaladdress. It also has a 2-KB page size. How many entries are there in each ofthe following?
   a. A conventional, single-level page table . Answer:_____ （填写10进制数）
   b. An inverted page table. Answer: _____ （填写10进制数）

填空题 (16 分)　16 分　(请按题目中的空缺顺序依次填写答案)

(1) 1024

(2) 32

正确答案:

(1) 1024

(2) 32

5. Consider a logical address space of 256pages with a 4-KB page size, mapped onto a physical memory of 64 frames.
   a. How many bits are required in the logical address?
   b. How many bits are required in the physical address?
   Answer:
   a. Logical address: _____ bits
   b. Physical address: _____ bits

填空题 (14 分)　14 分　(请按题目中的空缺顺序依次填写答案)

(1) 20

(2) 18

正确答案:

(1) 20

(2) 18

6. Consider a paging system with the page table stored in memory.
   a. If a memory reference takes 50 nanoseconds, how long does a paged memory reference take?
   b. If we add TLBs, and if 75 percent of allpage-table references are found in the TLBs, what is the effective memory reference time? (Assume that finding a page-table entry in the TLBs takes 2 nanoseconds, if the entryis present.)
   Answer:
   a. _____ ns
   b. _____ ns

填空题 (14 分)　14 分　(请按题目中的空缺顺序依次填写答案)

(1) 100

(2) 64.5

正确答案:

(1) 100

(2) 64.5