

<div>✕ 判断题 4</div> <div>A. 单选题 5</div>	
1-1 To merge 55 runs using 3 tapes for a 2-way merge, the original distribution (34, 21) is better than (27, 28). (2分)	<div><div><div></div>作者</div><div>何钦铭</div></div> <div><div></div>单位</div> <div>浙江大学</div>
<div>1-1 答案正确 (2 分)</div> <div>💡 创建提问</div>	
1-2 If only one tape drive is available to perform the external sorting, then the tape access time for any algorithm will be $\Omega(N^2)$. (2分)	<div><div><div></div>作者</div><div>陈越</div></div> <div><div></div>单位</div> <div>浙江大学</div>
<div>1-2 答案错误 ⓘ (0 分)</div> <div>💡 创建提问</div>	
1-3 The bottleneck of external sorting is to merge the records from input buffers to the output buffers. (2分)	<div><div><div></div>作者</div><div>陈越</div></div> <div><div></div>单位</div> <div>浙江大学</div>
<div>1-3 答案错误 ⓘ (0 分)</div> <div>💡 创建提问</div>	
1-4 In external sorting, a k -way merging is usually used in order to reduce the number of passes and we will take the k as large as possible as long as we have enough amount of tapes. (2分)	<div><div><div></div>作者</div><div>徐镜春</div></div> <div><div></div>单位</div> <div>浙江大学</div>
<div>1-4 答案正确 (2 分)</div> <div>💡 创建提问</div>	



✕ 判断题 4

A. 单选题 5

2-1 Given 100,000,000 records of 256 bytes each, and the size of the internal memory is 128MB. If simple 2-way merges are used, how many passes do we have to do? (2分)

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- ☐ A. 10
- ☒ B. 9
- ☐ C. 8
- ☐ D. 7

2-1 答案正确 (2 分) 创建提问

2-2 In external sorting, suppose we have 5 runs of lengths 2, 8, 9, 5, and 3, respectively. Which of the following merging orders can obtain the minimum merge time? (2分)

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- ☐ A. merge runs of lengths 2 and 3 to obtain Run#1; merge Run#1 with the one of length 5 to obtain Run#2; merge Run#2 with the one of length 8 to obtain Run#3; merge Run#3 with the one of length 9
- ☒ B. merge runs of lengths 2 and 3 to obtain Run#1; merge Run#1 with the one of length 5 to obtain Run#2; merge runs of lengths 8 and 9 to obtain Run#3; merge Run#2 and Run#3
- ☐ C. merge runs of lengths 2 and 3 to obtain Run#1; merge runs of lengths 5 and 8 to obtain Run#2; merge Run#1 and Run#2 to obtain Run#3; merge Run#3 with the one of length 9
- ☐ D. merge runs of lengths 2 and 3 to obtain Run#1; merge runs of lengths 5 and 8 to obtain Run#2; merge Run#2 with the one of length 9 to obtain Run#3; merge Run#1 and Run#3

2-2 答案正确 (2 分) 创建提问

2-3 In external sorting, in order to reduce the number of passes, minimizing the initial number of runs (i.e. generating longer runs) is a good idea. Suppose the input record keys are (25, 74, 56, 34, 21, 11, 29, 80, 38, 53) and the internal memery can hold only 3 records, the minimum number of initial runs obtained by replacement selection is__ 。 (2分)

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- ☐ A. 1
- ☒ B. 2
- ☐ C. 3
- ☐ D. 4

2-3 答案正确 (2 分) 创建提问

2-4 Suppose we have the internal memory that can handle 12 numbers at a time, and the following two runs on the tapes:

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Run 1: 1, 3, 5, 7, 8, 9, 10, 12

Run 2: 2, 4, 6, 15, 20, 25, 30, 32

Use 2-way merge with 4 input buffers and 2 output buffers for parallel operations. Which of the following three operations are NOT done in parallel? (3分)

- ☐ A. 1 and 2 are written onto the third tape; 3 and 4 are merged into an output buffer; 6 and 15 are read into an input buffer
- ☐ B. 3 and 4 are written onto the third tape; 5 and 6 are merged into an output buffer; 8 and 9 are read into an input buffer
- ☐ C. 5 and 6 are written onto the third tape; 7 and 8 are merged into an output buffer; 20 and 25 are read into an input buffer 这时候9 10 12 15在里面
- ☒ D. 7 and 8 are written onto the third tape; 9 and 15 are merged into an output buffer; 10 and 12 are read into an input buffer

2-4 答案正确 (3 分) 创建提问

2-5 Suppose that the replacement selection is applied to generate longer runs with a priority queue of size 4. Given the sequence of numbers { 9, 75, 17, 12, 88, 91, 25, 22, 35, 41, 58, 96, 15 }. Which of the following gives the second output run? (3分)

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- ☐ A. 22 35 88 91
- ☐ B. 22 35 41 58 88 91 96
- ☒ C. 22 35 41 58 96
- ☐ D. 22 35 41 58

2-5 答案正确 (3 分) 创建提问

