

ZJU-ADS-HQM2020-WK3

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✕ 判断题 6

A. 单选题 7

📄 程序填空题 1

2-1 When measuring the relevancy of the answer set, if the precision is high but the recall is low, it means that: (2分)

☐ A. most of the relevant documents are retrieved, but too many irrelevant documents are returned as well

☒ B. most of the retrieved documents are relevant, but still a lot of relevant documents are missed

☐ C. most of the relevant documents are retrieved, but the benchmark set is not large enough

☐ D. most of the retrieved documents are relevant, but the benchmark set is not large enough

🏆 作者

陈越

单位

浙江大学

2-1 答案正确 (2 分) 创建提问

2-2 Which of the following is NOT concerned for measuring a search engine? (2分)

☐ A. How fast does it index

☐ B. How fast does it search

☒ C. How friendly is the interface

☐ D. How relevant is the answer set

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陈越

单位

浙江大学

2-2 答案正确 (2 分) 创建提问

2-3 There are 28000 documents in the database. The statistic data for one query are shown in the following table. The recall is: __ (2分)

	Relevant	Irrelevant
Retrieved	4000	12000
Not Retrieved	8000	4000

☐ A. 14%

☐ B. 25%

☒ C. 33%

☐ D. 50%

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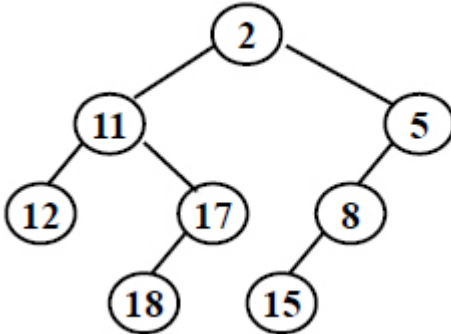
沈鑫

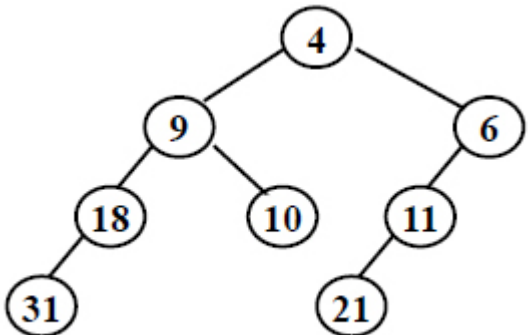
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2-3 答案正确 (2 分) 创建提问

2-10 Merge the two leftist heaps in the following figure. Which one of the following statements is FALSE? (2分)





☐ A. 2 is the root with 11 being its right child

☐ B. the depths of 9 and 12 are the same

☐ C. 21 is the deepest node with 11 being its parent

☒ D. the null path length of 4 is less than that of 2

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陈越

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浙江大学

2-10 答案正确 (2 分) 创建提问

2-11 We can perform BuildHeap for leftist heaps by considering each element as a one-node leftist heap, placing all these heaps on a queue, and performing the following step: Until only one heap is on the queue, dequeue two heaps, merge them, and enqueue the result. Which one of the following statements is FALSE? (3分)

☐ A. in the k -th run, $\lceil N/2^k \rceil$ leftist heaps are formed, each contains 2^k nodes

☐ B. the worst case is when $N = 2^K$ for some integer K

☐ C. the time complexity $T(N) = O(\frac{N}{2} \log 2^0 + \frac{N}{2^2} \log 2^1 + \frac{N}{2^3} \log 2^2 + \dots + \frac{N}{2^K} \log 2^{K-1})$ for some integer K so that $N = 2^K$

☒ D. the worst case time complexity of this algorithm is $\Theta(N \log N)$

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2-11 答案正确 (3 分) 创建提问

2-12 Insert keys 1 to 15 in order into an initially empty skew heap. Which one of the following statements is FALSE? (2分)

☐ A. the resulting tree is a complete binary tree

☒ B. there are 6 leaf nodes

☐ C. 6 is the left child of 2

☐ D. 11 is the right child of 7

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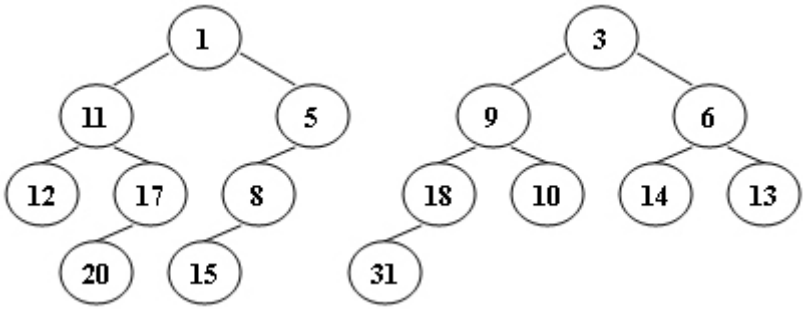
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2-12 答案正确 (2 分) 创建提问

2-4 Merge the two skew heaps in the following figure. Which one of the following statements is FALSE? (2分)

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- ☒ A. 15 is the right child of 8
- ☐ B. 14 is the right child of 6
- ☐ C. 1 is the root
- ☐ D. 9 is the right child of 3





✕ 判断题 6

A. 单选题 7

📄 程序填空题 1

5-1 The function is to merge two leftist heaps H1 and H2.

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时间限制	400 ms
内存限制	64 MB

```
PriorityQueue Merge( PriorityQueue H1, PriorityQueue H2 )
{
    if (H1==NULL) return H2;
    if (H2==NULL) return H1;
    if ( H1-> > H2->  (3分))
        swap(H1, H2); //swap H1 and H2
    if ( H1->Left == NULL )
         (3分);
    else {
        H1->Right = Merge( H1->Right, H2 );
        if ( H1->Left->Npl < H1->Right->Npl )
            SwapChildren( H1 ); //swap the left child and right child of H1
         (3分) ;
    }
    return H1;
}
```

5-1 部分正确 ⓘ (3 分)

