Test 3 Corrections

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10. Suppose that the data values:

22, 8, 7, 28, 10

are inserted into a seven-slot hash table, in that order. Using the hash function H(k) = k%7 and using linear probing to resolve collisions, where in the hash table is the data value 8 located?

A) Slot number 0

B) Slot number 1

C) Slot number 2

D) Slot number 3

E) None of the above

DATA: |7 |22| 8 |28 |10 | | |

INDEX: |0 |1 | 2 | 3 | 4 | 5 |6|

My initial answer: B

The correction: C

13. When a program determines whether to use an overridden method or an inherited method at run-time is called\_\_\_\_\_\_\_\_\_\_.

My initial answer: runtime execution

The correction: polymorphism

18. In a heap, when we delete a node, which node do we delete?

My initial answer: the front

The correction: the root (also the front)

25. How do the fundamental properties of a heap (not the implementation) differ from a binary tree?

My initial answer:

Removal and insertion keep the data in fully sorted order in a heap, while BST’s only retain their left child is smaller right child is bigger than current node structure.

Correction:

In the heap the siblings have no relationship other than both of them being either bigger or smaller than the parent. Where as in the BST has a fundamental sibling relationship where a left child is smaller than the right sibling is larger; both of those relationships also hold for between each sibling and the parent.