HackerRank For Work

Fall_2017_INFO6205_Quiz_5 30 minutes

Question - 1
Binary Search

SCORE: **5 points**

What is the least and greatest number of key compares that a Binary Search algorithm might use for a sorted array of size N.

- Least : 1, Most:logN
- Least : 1, Most: N
- Least : 1, Most: logN+1
- None of the above

Question - 2
Hashcodes and Equality

SCORE: **5 points**

Which of the following is/are true. (Select all that apply)

- If x.equals(y), x.hashCode() must be equal to y.hashCode().
- If x.hashCode()=y.hashCode(), then x.equals(y).
- If x.equals(y), x.compareTo(y) must be equal to 0
- All of the above

Question - 3
Reverse Polish Notation

SCORE: **5 points**

What will be the value of the following expression in Reverse Polish Notation?
4 3 2 + 1 7 * * +

- 31
- 67
- 39
- None of the above

Question - 4
Characters

SCORE: **5 points**

what do each of the following print?
a. System.out.println('b');

b. System.out.println('b' + 'c');
c. System.out.println((char) ('a' + 4));

- (●) b, 197, e
- ( ) b, bc, a4
- ( ) b, 197, 99
- ( ) It throws an Exception

Question - 5

SCORE: **5 points**

Array Manipulations

What will be the value of a[8] after execution of the following code :

```
int[] a = new int[10];
for (int i = 0; i < 10; i++)
  a[i] = 9 - i;
for (int i = 0; i < 10; i++)
  a[i] = a[a[i]];
```

- ( ) 8
- ( ) 7
- (●) 1
- ( ) 2

Question - 6

SCORE: **5 points**

Linked List Nodes

Suppose x is a linked-list node and not the last node on the list. What is the efect of the following code fragment?

```
x.next = x.next.next;
```

- ( ) Deletes the node x from the list
- (●) Deletes the node immediately following x from the list
- ( ) Deletes the node immediately following x.next;
- ( ) None of the above

Question - 7

SCORE: **5 points**

Binary Search Condtion

True or False: it's always safe to use mid = (low + high) / 2 in binary search.

- [ ] True
- [x] False

Question - 8

SCORE: **5 points**

Array vs Linked List

Which of the following points is/are true about a Linked List data structure when compared with an Array?

- [ ] Arrays have better cache locality that can make them better in terms of performance.
- [ ] Random access is not allowed in the typical implementation of a linked list.
- [ ] The size of array has to be pre-decided, linked lists can change their size any time.
- [x] All of the above.