Question 1

0.6 out of 0.6 points

In an array-based implementation of a heap, the heapInsert operation is \_\_\_\_\_\_.

Selected Answer:

b.

O(log n)

Answers:

a.

O(log n)

b.

O(n2)

c.

O(1)

d.

O(n)

Question 2

0.6 out of 0.6 points

The quicksort is \_\_\_\_\_\_ in the worst case.

Selected Answer:

d.

O(n2)

Answers:

a.

O(log2n)

b.

O(n2)

c.

O(n3)

d.

O(n \* log2n)

Question 3

0.6 out of 0.6 points

\_\_\_\_\_\_ is a collision-resolution scheme that searches the hash table sequentially, starting from the original location specified by the hash function, for an unoccupied location.

Selected Answer:

a.

Linear probing

Answers:

a.

Linear probing

b.

Separate chaining

c.

Double hashing

d.

Quadratic probing

Question 4

0.6 out of 0.6 points

\_\_\_\_\_\_ is a collision-resolution scheme that searches the hash table for an unoccupied location beginning with the original location that the hash function specifies and continuing at increments of 12, 22, 32, and so on.

Selected Answer:

b.

Quadratic probing

Answers:

a.

Separate chaining

b.

Quadratic probing

c.

Double hashing

d.

Linear probing

Question 5

0.6 out of 0.6 points

The sequence of locations in a hash table that a collision resolution scheme examines is known as a(n) \_\_\_\_\_\_ sequence.

Selected Answer:

b.

probe

Answers:

a.

collision

b.

iteration

c.

hash

d.

probe

Question 6

0.6 out of 0.6 points

A heap is a \_\_\_\_\_\_

Selected Answer:

b.

complete binary tree

Answers:

a.

general tree

b.

full binary tree

c.

complete binary tree

d.

table

Question 7

0.6 out of 0.6 points

The following array represents a maxHeap:

10

8

3

4

6

1

2

The following represents the maxHeap after heapDelete() is executed,

Selected Answer:

d.

8

6

3

4

2

1

Answers:

a.

8

6

3

2

4

1

b.

10

8

3

4

6

1

c.

8

3

4

6

1

2

d.

8

6

3

4

2

1

Question 8

0.6 out of 0.6 points

The condition that occurs when a hash function maps two or more distinct search keys into the same location is called a(n) \_\_\_\_\_\_.

Selected Answer:

d.

collision

Answers:

a.

collision

b.

congestion

c.

disturbance

d.

rotation

Question 9

0 out of 0.6 points

Given that the first element is chosen as the pirvot element, which Array will take the longest time to sort in quicksort?

Selected Answer:

a.

[0]

[1]

[2]

[3]

[4]

[5]

[6]

4

6

8

2

8

10

12

Answers:

a.

[0]

[1]

[2]

[3]

[4]

[5]

[6]

4

6

8

2

8

10

12

b.

[0]

[1]

[2]

[3]

[4]

[5]

[6]

8

12

10

2

14

4

6

c.

[0]

[1]

[2]

[3]

[4]

[5]

[6]

6

2

4

14

8

10

12

d.

[0]

[1]

[2]

[3]

[4]

[5]

[6]

14

12

10

8

6

4

2

Question 10

0.6 out of 0.6 points

Which sorting method recursively divides the array into halves.

Selected Answer:

a.

mergesort

Answers:

a.

mergesort

b.

quicksort

c.

TreeSort

d.

BubbleSort

Question 11

0.6 out of 0.6 points

The following array represents a maxHeap:

12

8

10

6

4

7

After HeapInsert(14) is executed, the maxHeap Array will be:

Selected Answer:

a.

14

8

12

6

4

7

10

Answers:

a.

14

8

12

6

4

7

10

b.

14

12

8

6

4

7

10

c.

14

10

12

6

4

7

10

d.

14

8

12

6

4

10

7

Question 12

0.6 out of 0.6 points

Which of the following is true about the heapsort?

Selected Answer:

c.

the heapsort does not require a second array

Answers:

a.

the heapsort is more efficient than the mergesort in the average case

b.

the heapsort is more efficient than the mergesort in the worst case

c.

the heapsort does not require a second array

d.

the heapsort is better than the quicksort in the average case

Question 13

0.6 out of 0.6 points

In an array-based implementation of a heap, the parent of the node in items[i] is always stored in \_\_\_\_\_\_.

Selected Answer:

a.

items[(i-1)/2]

Answers:

a.

items[i-2]

b.

items[i/2]

c.

items[(i-2)/2]

d.

items[(i-1)/2]

Question 14

0.6 out of 0.6 points

The load factor of a hash table is calculated as

Selected Answer:

b.

current number of table items / table size

Answers:

a.

table size + current number of table items

b.

current number of table items \* table size

c.

current number of table items / table size

d.

table size – current number of table items

Question 15

0.6 out of 0.6 points

A hash table is a(n) \_\_\_\_\_\_\_\_

Selected Answer:

c.

array

Answers:

a.

queue

b.

list

c.

array

d.

stack

Question 16

0 out of 1 points

The following Array is to be sorted using QuickSort with the partitionelement =10 (the first element of the Array).

[0]

[1]

[2]

[3]

[4]

[5]

[6]

[7]

[8]

[9]

10

6

2

12

16

14

18

20

4

8

The value returned from findPartition = \_\_\_\_\_

Selected Answer:

14

Tuesday, December 9, 2014 10:44:36 PM EST

OK