

[Home](#) / [My courses](#) / [anhth35-SP21-CSD201](#) / 19/3-Assginment1-PracticalEx1-Review / [Assignment 1 - Multi Choice - LMS](#)

Started on Friday, 19 March 2021, 12:50 PM

State Finished

Completed on Friday, 19 March 2021, 2:00 PM

Time taken 1 hour 9 mins

Marks 35.67/50.00

Grade 7.13 out of 10.00 (71%)

Question **1**

Incorrect

Mark 0.00 out of 1.00

[103] Let us call L is the pointer to the head node of a linked list of the length greater than or equal to 2. So, which is the code for remove the second node of the linked list?

Select one:

- ☐ L.next.next = null;
- ☐ L = L.next;
- ☒ L.next.next = L.next;
- ☐ L.next = null;
- ☐ L.next = L.next.next;

✖

The correct answer is: L.next = L.next.next;

Question 2

Incorrect

Mark 0.00 out of 1.00

[416] What is the order of traversal used by the function TRAVERSE?

```
void TRAVERSE (tree root)
{
    if (root != null) {
        System.out.print (root.data);
        TRAVERSE (root.leftChild);
        TRAVERSE (root.rightChild);
    }
}
```

Select one:

- ☐ Bread-first-order
- ☐ In-order
- ☒ Pre-order
- ☐ Post-order

✗

The correct answer is: In-order

Question 3

Incorrect

Mark 0.00 out of 1.00

[110] Given a single linked list as follows: head --> 1111 --> 2222 --> 3333 --> 4444 --> null. What statement is used to remove the first element?

Select one:

- ☐ head = head.data;
- ☐ head = 1;
- ☐ head = null;
- ☒ head = head.next.next;
- ☐ head = head.next;

✗

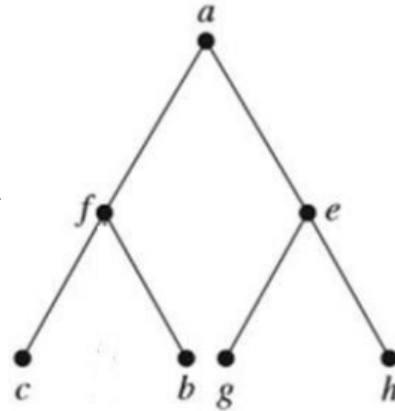
The correct answer is: head = head.next;

Question 4

Correct

Mark 1.00 out of 1.00

[405] Show the pre-order traversal of the following ordered rooted tree.



Select one:

- ☐ c b f g h e a
- ☐ c f b a g e h
- ☒ a f c b e g h
- ☐ a f e c b g h



The correct answer is: a f c b e g h

Question 5

Incorrect

Mark 0.00 out of 1.00

[609] Apply Quick-Sort on a given array $A = \{6, 7, 4, 1, 2, 9\}$. What is the sequence after first phase, the pivot value is middle element ($A[3]$)?

Select one:

- ☐ 6 7 4 1 2 9
- ☐ 1 2 4 6 7 9
- ☐ 2 1 4 7 6 9
- ☒ 1 2 4 7 6 9



The correct answer is: 2 1 4 7 6 9

Question **6**

Incorrect

Mark 0.00 out of 1.00

[707] Choose the facts in the following

Select one or more:

- ☐ Using quadratic probing method, we always find out the position for add an item to the hash table if it is not full.
- ☒ Quadratic probing can be more efficient than linear one, since it better avoids the clustering problem that can occur with linear probing. ✓
- ☒ Using linear probing method, we always find out the position for add an item to the hash table if it is not full. ✗
- ☐ Quadratic probing also preserves some locality of reference; however, linear probing has greater locality and, thus, better cache performance.

The correct answers are: Using quadratic probing method, we always find out the position for add an item to the hash table if it is not full., Quadratic probing can be more efficient than linear one, since it better avoids the clustering problem that can occur with linear probing., Quadratic probing also preserves some locality of reference; however, linear probing has greater locality and, thus, better cache performance.

Question **7**

Correct

Mark 1.00 out of 1.00

[302] What is the output that will be displayed by the call of func4(10), given bellow?

```
void func4(int n)
{
    if(n==0) return;
    func4 (n/2);
    System.out.print(n%2);
}
```

Select one:

- ☐ 0101
- ☐ 5 2 1 0
- ☒ 1010 ✓
- ☐ 100
- ☐ 0 1 2 5

The correct answer is: 1010

Question 8

Incorrect

Mark 0.00 out of 1.00

[303] The function func4 is recursive. Let us choose the correct statements.

```
void func4(int n)
{
    if(n==0) return;
    func4 (n/2);
    System.out.print(n%2);
}
```

Select one or more:

- ☒ func4 is not a tail recursion ✗
- ☐ We can write a non-recursive function of the same mission using the STACK structure
- ☒ The tail of func4 is "System.out.print (n % 2)" ✓
- ☐ We can not write a non-recursive function of the same mission

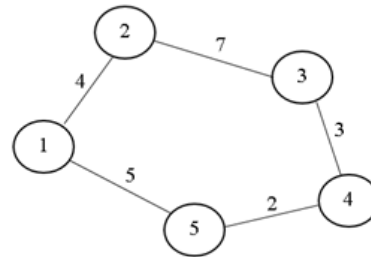
The correct answers are: We can write a non-recursive function of the same mission using the STACK structure, The tail of func4 is "System.out.print (n % 2)"

Question 9

Correct

Mark 1.00 out of 1.00

[516] What is the shortest path and the corresponding cost from node 3 to node 1?



Select one:

- ☐ 3 – 2 – 1, 11
- ☐ 3 – 2 – 1, 2
- ☒ 3 – 4 – 5 – 1, 10 ✓
- ☐ 3 – 4 – 5 – 1, 3

The correct answer is: 3 – 4 – 5 – 1, 10

Question **10**

Incorrect

Mark 0.00 out of 1.00

[204] A letter means enqueue and an asterisk means dequeue in the following sequence. Give the content of queue, when this sequence of operations is performed on an initially empty queue. E A S * Y * Q U E * * * S T * * * I O * N * * *

Select one:

- ☐ QUESTION
- ☐ EASY
- ☐ Empty
- ☐ NOITSEUQYSAE
- ☒ EASYQUESTION

✗

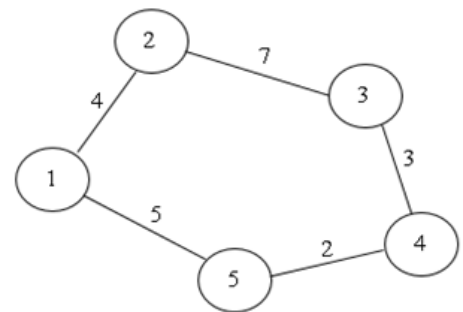
The correct answer is: Empty

Question **11**

Correct

Mark 1.00 out of 1.00

[512] What is the output of depth-first traversal from vertex 2? (visit nodes in 12345 order)?



Select one:

- ☐ 2 1 3 4 5
- ☐ 2 1 3 5 4
- ☐ 2 3 4 5 1
- ☒ 2 1 5 4 3

✓

The correct answer is: 2 1 5 4 3

Question 12

Incorrect

Mark 0.00 out of 1.00

[602] Heapsort can be thought of as an improved selection sort: like selection sort. Heap sort divides its input into a sorted and an unsorted region, and it iteratively shrinks the unsorted region by extracting the largest element from it and inserting it into the sorted region.

Select one or more:

- ☒ To sort an array of N elements, we need to execute N-1 times of extracting. ✓
- ☐ To sort an array of N elements, we need to execute N times of shrinking.
- ☒ To sort an array of N elements, we need to execute N times of extracting. ✗
- ☐ To sort an array of N elements, we need to execute N-1 times of shrinking.

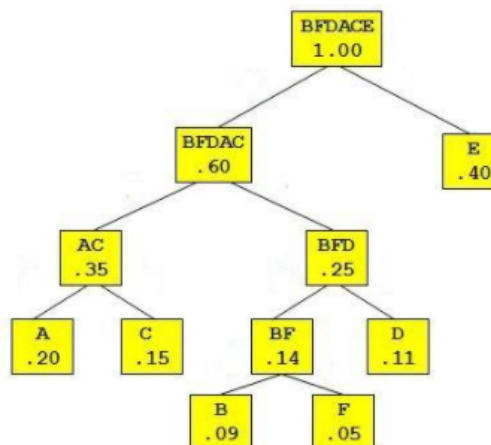
The correct answers are: To sort an array of N elements, we need to execute N-1 times of extracting., To sort an array of N elements, we need to execute N-1 times of shrinking.

Question 13

Correct

Mark 1.00 out of 1.00

[804] Which of the code of letters A, B, C, D, E and F, given the Huffman tree below? Suppose that when constructing the code, the left



branch of a node gets value 0, the right one gets value 1

Select one:

- ☒ A: 000, B: 0100, C: 001, D: 011, E: 1 and F: 0101. ✓
- ☐ A: 111, B: 1011, C: 110, D: 100, E: 0 and F: 1010.
- ☐ A: 000, B: 0100, C: 001, D: 010, E: 1 and F: 0101.
- ☐ A: 000, B: 0100, C: 001, D: 001, E: 1 and F: 0101.

The correct answer is: A: 000, B: 0100, C: 001, D: 011, E: 1 and F: 0101.

Question 14

Correct

Mark 1.00 out of 1.00

[801] KMP is a linear time algorithm for string matching problem. In the first phase, it is important to find out the prefix/suffix array, named $\Pi(P)$, that encapsulates knowledge about how pattern P matches against shifts of itself. This information can be used to avoid useless shifts of P . In other words, this enables avoiding backtracking on S . What is $\Pi(\text{ababaca})$?

ind	1	2	3	4	5	6	7
P	a	b	a	b	a	c	a
Π							

Select one:

- ☒ $\Pi[1]=\Pi[2]=\Pi[6]=0$, $\Pi[3]=\Pi[7]=1$, $\Pi[4]=2$ and $\Pi[5]=3$
- ☐ $\Pi[1]=\Pi[2]=\Pi[6]=0$, $\Pi[3]=\Pi[7]=3$, $\Pi[4]=2$ and $\Pi[5]=1$
- ☐ $\Pi[1]=0$, $\Pi[2]=1$, $\Pi[3]=2$, $\Pi[4]=3$, $\Pi[5]=4$, $\Pi[6]=5$ and $\Pi[7]=6$
- ☐ $\Pi[1]=\Pi[2]=\Pi[6]=0$, $\Pi[3]=\Pi[7]=1$, $\Pi[4]=2$ and $\Pi[5]=1$



The correct answer is: $\Pi[1]=\Pi[2]=\Pi[6]=0$, $\Pi[3]=\Pi[7]=1$, $\Pi[4]=2$ and $\Pi[5]=3$

Question 15

Correct

Mark 1.00 out of 1.00

[203] A letter means push and an asterisk means pop in the following sequence. Give the content of stack from top to bottom, when this sequence of operations is performed on an initially empty stack. E A S * Y * Q U E * * * S T * * * I O * N * * *

Select one:

- ☐ EASYQUESTION
- ☐ QUESTION
- ☐ EASY
- ☐ NOITSEUQYSAE
- ☒ Empty



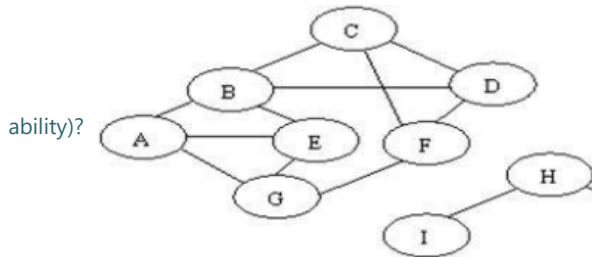
The correct answer is: Empty

Question **16**

Correct

Mark 1.00 out of 1.00

[505] What is the output of breadth-first traversal from vertex F (visit nodes in ABC order if there are some nodes having the same selection



Select one:

- ☐ F C B A E G D
- ☐ F C D G B E A
- ☐ F D C B A G E
- ☒ F C D G B A E



The correct answer is: F C D G B A E

Question **17**

Correct

Mark 1.00 out of 1.00

[708] Open address hash method is a strategy for resolving collisions, by placing the new key into the closest following empty cell. To insert a given key x to the hash table of size M , the cells are examined, beginning with the cell at index $h(x)$ (where h is the hash function) and continuing to the adjacent cells $(h(x) + \text{open}(i)) \% M$, $i=1, 2, \dots$ until finding either an empty cell or the hash table is full. If _____, then we call the open method is _____.

Select one:

- ☐ $\text{open}(i) = i^2$, linear probing
- ☐ $\text{open}(i) = i$, quadratic probing
- ☒ $\text{open}(i) = i^2$, quadratic probing
- ☐ $\text{open}(i) = 2 * i$, linear probing



The correct answer is: $\text{open}(i) = i^2$, quadratic probing

Question 18

Incorrect

Mark 0.00 out of 1.00

[706] Give the set {A-1, B-2, ..., Z-26} of 26 letters and their corresponding keys in the figure below. Let us call HT to be the hash table of the size $M=16$, obtained by a opening address method with linear probing. Which of the following figures (named by (1), (2), (3)) is the content of HT that results when you insert 12 letters E, A, S, Y, Q, U, E, S, T, I, O and N using modulo hash function $h(k) = k \bmod M$ to transform the letter of the key k ?

A-1	B-2	C-3	D-4	E-5	F-6	G-7	H-8	I-9
J-10	K-11	L-12	M-13	N-14	O-15	P-16	Q-17	R-18
S-19	T-20	U-21	V-22	W-23	X-24	Y-25	Z-26	

HT

(1)

Ind	Key	Ind	Key	Ind	Key	Ind	Key
0	E	4	Q	8	T	12	
1	A	5	U	9	I	13	
2	S	6	E	10	O	14	
3	Y	7	S	11	N	15	

HT

(2)

Ind	Key	Ind	Key	Ind	Key	Ind	Key
0		4	S	8	T	12	
1	A	5	E	9	Y	13	
2	Q	6	U	10	I	14	N
3	S	7	E	11		15	O

HT

(3)

Ind	Keys	Ind	Keys	Ind	Keys	Ind	Keys
0		4	T	8		12	
1	A -> Q	5	E -> E	9	Y -> I	13	
2	U	6		10		14	N
3	S -> S	7		11		15	O

Select one:

- ☐ (2) and (3)
☐ (1) and (3)
☒ (1) and (2)
☐ (1) only
☐ (2) only
☐ (3) only

✗

The correct answer is: (2) only

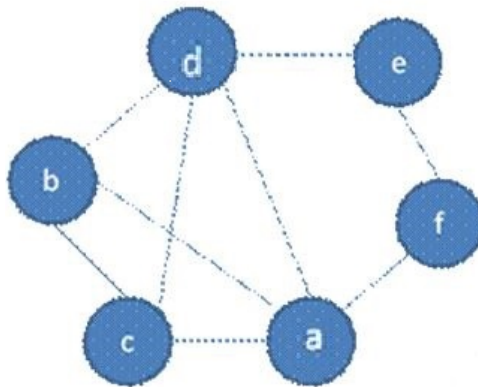
Question **19**

Correct

Mark 1.00 out of 1.00

[508] Considering the graph in below. What is the output of BREADTH-first traversal from vertex b? (visit nodes in abc..z order if there are

some nodes having the same selection ability).



Select one:

- ☐ bcdefa
- ☒ bacdfe
- ☐ bacdef
- ☐ bafecd



The correct answer is: bacdfe

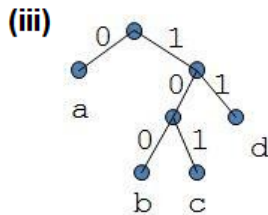
Question **20**

Correct

Mark 1.00 out of 1.00

- (i) A 0 C 1010 E 1100 G 1110
 B 100 D 1011 F 1101 H 1111
- (ii) **a = 1, b = 01, c = 101, d = 011**

[802] Which of the following is/are prefix codes?



Select one:

- ☒ (i) and represented by the prefix tree (iii)
- ☐ (i) and (ii)
- ☐ Represented by the prefix tree (iii)
- ☐ (i)
- ☐ (ii)
- ☐ (ii) and represented by the prefix tree (iii)



The correct answer is: (i) and represented by the prefix tree (iii)

Question **21**

Correct

Mark 1.00 out of 1.00

[709] Choose the facts in the following

Select one:

- ☐ Linear probing is always more efficient than quadratic one.
- ☐ In general, chaining method is faster than open addressing method.
- ☐ Using quadratic probing method, we always find out the position for add an item to the hash table if it is not full.
- ☒ Quadratic probing can be more efficient than linear one, since it better avoids the clustering problem that can occur with linear probing.



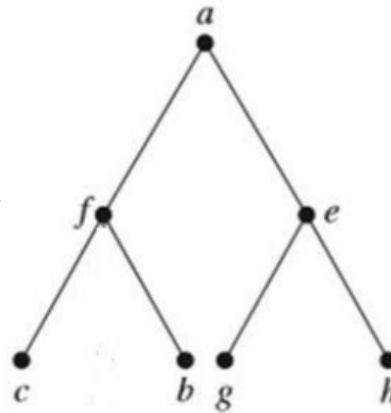
The correct answer is: Quadratic probing can be more efficient than linear one, since it better avoids the clustering problem that can occur with linear probing.

Question **22**

Correct

Mark 1.00 out of 1.00

[404] Show the in-order traversal of the following ordered rooted tree.



Select one:

- ☐ c b f g h e a
- ☒ c f b a g e h
- ☐ a f e c b g h
- ☐ a f c b e g h



The correct answer is: c f b a g e h

Question **23**

Correct

Mark 1.00 out of 1.00

[604] Insertion sort is a simple sorting algorithm that builds the final sorted array (or list) one item at a time. See the bellow example. Choose

Sorting the array 67, 33, 21, 84, 49, 50, 75.

The result after each step

the facts in the following.

i=2	33	67		21	84	49	50	75
i=3	21	33	67		84	49	50	75
i=4	21	33	67	84		49	50	75
i=5	21	33	49	67	84		50	75
i=6	21	33	49	50	67	84		75
i=7	21	33	49	50	67	75	84	

Select one or more:

- ☒ The complexity in averagecase is $O(N^2)$.
- ☒ To sort an array of N elements, we need to execute N-1 steps of inserting.
- ☐ To sort an array of N elements, we have to execute N times of inserting operation.
- ☐ The complexity in averagecase is $O(N)$.



The correct answers are: To sort an array of N elements, we need to execute N-1 steps of inserting., The complexity in averagecase is $O(N^2)$.

Question **24**

Correct

Mark 1.00 out of 1.00

[517] Which of strategy used to obtain the QUICK sort algorithm for sorting an array/list?

Select one:

- ☐ Dynamic programming
- ☐ Greedy
- ☒ Divide-Conquer



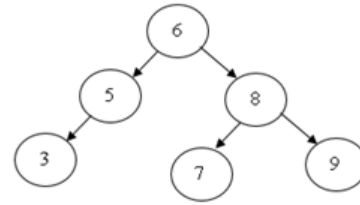
The correct answer is: Divide-Conquer

Question **25**

Correct

Mark 1.00 out of 1.00

[418] Given a binary search tree as in the figure. What is the level-order traversal?



Select one:

- ☐ 3 5 6 8 7 9
- ☐ 3 5 6 7 8 9
- ☒ 6 5 8 3 7 9
- ☐ 3 5 7 9 8 6



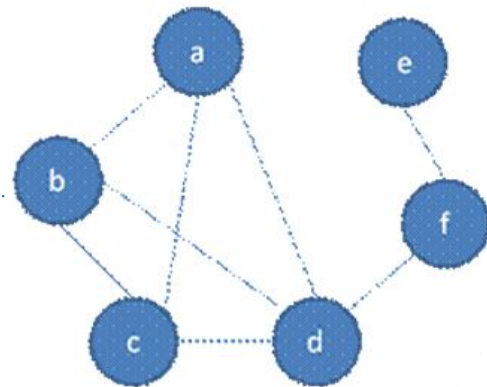
The correct answer is: 6 5 8 3 7 9

Question **26**

Correct

Mark 1.00 out of 1.00

[507] The adjacency matrix for the graph below has ____ rows and fifteen 1-entries.



Select one:

- ☐ 12 and fifteen 1-entries
- ☒ 6 and fifteen 1-entries
- ☐ 6 and twelve 1-entries
- ☐ 6 and fifteen 1-entries
- ☐ 6 and twenty one 1-entries



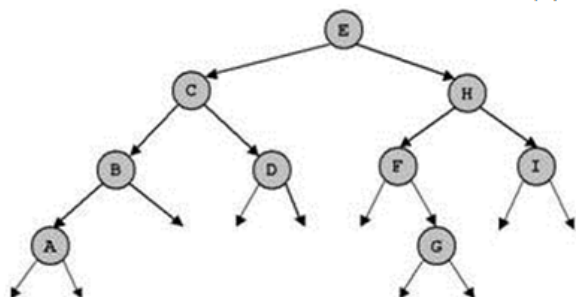
The correct answer is: 6 and fifteen 1-entries

Question **27**

Incorrect

Mark 0.00 out of 1.00

[411] In the following binary search tree delete the key H. Give the depth-first (post-order) traversal.



Select one or more:

- ☐ E, C, G, B, D, F, I and A.
- ☒ E, C, B, A, D, G, F and I.
- ☒ E, C, I, B, D, F, A and G.
- ☐ E, C, B, A, D, I, F and G.



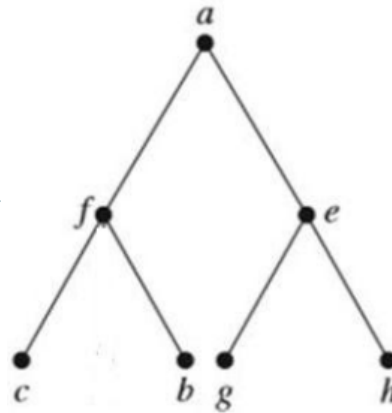
The correct answers are: E, C, B, A, D, G, F and I., E, C, B, A, D, I, F and G.

Question **28**

Correct

Mark 1.00 out of 1.00

[403] Show the post-order traversal of the following ordered rooted tree.



Select one:

- ☐ a f c b e g h
- ☐ a f e c b g h
- ☒ c b f g h e a
- ☐ c f b a g e h



The correct answer is: c b f g h e a

Question **29**

Incorrect

Mark 0.00 out of 1.00

[301] Give the code as bellow. So, what is the result of the call `func2(new int[]{1, 2, 3, 4, 5, 6, 7}, 6, 0, 6)`?

```
int func2(int a[], int z, int d, int c)
{
    if (d > c) then return -1;
    int g = (d+c) / 2;
    if (z == a[g]) return g;
    if (z < a[g]) return func2 (a, d, g-1, z);
    return func2 (a, g+1, c, z);
}
```

Select one:

- ☐ 0
- ☒ -1
- ☐ 6
- ☐ 5
- ☐ 7



The correct answer is: 5

Question **30**

Correct

Mark 1.00 out of 1.00

[710] A hash function h defined $h(\text{key}) = \text{key} \bmod 9$, with linear probing, is used to insert the keys 24, 16, 36, 15 into a table indexed from 0 to 8. What will be the location of key 15?

Select one:

- ☐ 7
- ☐ 6
- ☐ 9
- ☒ 8



The correct answer is: 8

Question **31**

Correct

Mark 1.00 out of 1.00

[201] Assume that x, y, z are integer variables and that s is a stack of integers, state the output of each program fragment.

```
x = 3; y = 5; z = 2;
s.makeEmpty();
s.push(x); s.push(4); s.pop();
s.push(y); s.push(3); s.push(z);
s.pop(); s.push(2); s.push(x);
while(! s.isEmpty()) System.out.print(s.pop() + " ");
```

Select one:

- ☐ 3 4 5 3 2 2 3
- ☐ 5 3 2 2 3
- ☒ 3 2 3 5 3
- ☐ 3 2 3 3 5



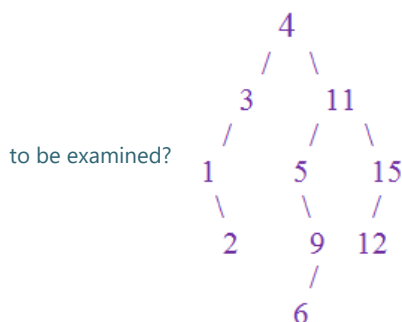
The correct answer is: 3 2 3 5 3

Question **32**

Correct

Mark 1.00 out of 1.00

[412] Suppose we have the following binary search tree and we want to search for the number 9 in the tree. What is the sequence of nodes



Select one:

- ☐ 4, 3, 11, 1, 5, 15, 2 and 9
- ☐ 4, 3, 1, 2, 11, 5 and 9
- ☒ 4, 11, 5 and 9
- ☐ 6, 2 and 9



The correct answer is: 4, 11, 5 and 9

Question **33**

Correct

Mark 1.00 out of 1.00

[210] In a circular queue size SIZE, how do you increment the END of the queue?

Select one:

- ☒ (END + 1) % SIZE
- ☐ END --
- ☐ END ++
- ☐ (END % SIZE)+1



The correct answer is: (END + 1) % SIZE

Question **34**

Correct

Mark 1.00 out of 1.00

[102] Assume that the recursive func3 is obtained to display a linked list to the screen. Thus, we call func3(Head). Choose the best suitable

```
void func3 (Node t)
{
```

code for the line _____ in func3.

```
    System.out.print(t.info);
    func3 (t.next);
}
```

Select one:

- ☐ if (Head == null) return;
- ☐ if (t != null) return;
- ☒ if (t == null) return;
- ☐ if (Head != null) return;



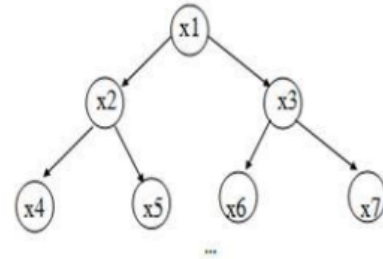
The correct answer is: if (t == null) return;

Question 35

Incorrect

Mark 0.00 out of 1.00

[603] Heap is a special case of a balanced binary tree data structure where the root-node key is compared with its children and arranged accordingly. If α has child node β then $key(\alpha) \geq key(\beta)$. If the array $X = \{x_1, x_2, x_3, x_4, x_5, x_6, x_7\}$ (or $X = \{x[i], i = 1, 2, \dots, 7\}$) is represented by



given heap bellow, then ___ is the max element of X. The reason is that _____

Select one:

- ☐ $x[1]$; $x[i] \geq x[2*i]$ and $x[i] \geq x[2*i+1]$ for any $i = 1, 2, 3$.
- ☒ $x[7]$; 7 is the right-most node of the heap.
- ☐ $x[1]$; 7 is the right-most node of the heap.
- ☐ We conclude nothing about the max element.

✗

The correct answer is: $x[1]$; $x[i] \geq x[2*i]$ and $x[i] \geq x[2*i+1]$ for any $i = 1, 2, 3$.

Question 36

Incorrect

Mark 0.00 out of 1.00

[107] Given a linked list and function as follow: head->1->2->3->null What is the output of the program?

```
static void func(Node p)
{
    if(p!=null)
    {
        func(p.next);
        System.out.print(p.data + " ");
    }
}
public static void main(String[] args) {
    func(head);
}
```

Select one:

- ☒ 1 2 3
- ☐ 2
- ☐ 1 3
- ☐ 3 2 1

✗

The correct answer is: 3 2 1

Question **37**

Correct

Mark 1.00 out of 1.00

[211] What output is displayed after the following code lines executes:

```
Stack S = new Stack();  
for (int i = 11; i <= 20; i++)  
    if (i % 2 != 0)  
        S.push(i);  
while (! S.empty())  
    System.out.print(S.pop());
```

Select one:

- ☒ 19, 17, 15, 13, 11
- ☐ 12, 14, 16, 18, 20
- ☐ 11, 13, 15, 17, 19
- ☐ 20, 18, 16, 14, 12



The correct answer is: 19, 17, 15, 13, 11

Question **38**

Correct

Mark 1.00 out of 1.00

[807] Brute-Force (BF) algorithm is to search for the occurrences of a pattern P in string S. Now, show the result of BF for P and S are given

String S

1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	B	C	A	B	A	A	B	A	A	B	A	A	C

below.

Pattern P

A	B	A	A
---	---	---	---

Select one:

- ☐ At position 1 only
- ☐ At position 4 only
- ☐ P does not appear in S.
- ☐ At positions 4 and 10
- ☒ At positions 4, 7 and 10



The correct answer is: At positions 4, 7 and 10

Question **39**

Correct

Mark 1.00 out of 1.00

[308] Show the output that will be displayed by the call show3(145)

```
void show3 (int n )
{
    System.out.print (( n % 10 ) );
    if ( n > 0 ) show3 ( n / 10 );
    System.out.print (( n % 10 ) );
}
```

Select one:

- ☐ 0145
- ☐ 541145
- ☒ 54100145
- ☐ 5410



The correct answer is: 54100145

Question **40**

Correct

Mark 1.00 out of 1.00

[206] Given an empty stack S. What does S look like after the following statements are done?

```
S.push(5);
S.push(3);
S.top();
S.push(2);
S.pop();
S.push(1);
```

Select one:

- ☐ 5 3 2
- ☐ 5 3 2 1
- ☒ 5 3 1
- ☐ 5 1



The correct answer is: 5 3 1

Question **41**

Correct

Mark 1.00 out of 1.00

[806] Which of the following algorithm is/are directly used for text processing?

Select one:

- ☒ Brute-Force, Huffman Coding, Knuth-Morris-Pratt, LZW and Run-length
- ☐ Prim, LZW and Run-length Encoding
- ☐ Knuth-Morris-Pratt, LZW and Merge sort
- ☐ Brute-Force, Huffman Coding and Binary search
- ☐ Brute-Force, Huffman Coding, Knuth-Morris-Pratt, LZW and Prim
- ☐ Brute-Force, Huffman Coding, Knuth-Morris-Pratt, LZW and Merge sort



The correct answer is: Brute-Force, Huffman Coding, Knuth-Morris-Pratt, LZW and Run-length

Question **42**

Correct

Mark 1.00 out of 1.00

[506] The adjacency matrix representing a graph of 8 vertices has _____ elements.

Select one:

- ☐ 56
- ☒ 64
- ☐ 16
- ☐ 8



The correct answer is: 64

Question 43

Partially correct

Mark 0.67 out of 1.00

[305] Which of the following is/are the type(s) of recursions?

Select one or more:

- ☐ crossing
- ☐ loop
- ☐ direct
- ☒ tail
- ☒ nested



The correct answers are: tail, direct, nested

Question 44

Correct

Mark 1.00 out of 1.00

[108] Give the code as bellow. So, what is the result of the program?

```
public class Test {  
    static int func(int A[], int x)  
    {  
        int i = 0;  
        while(i < A.length)  
        {  
            if(A[i] == x)  
                return i;  
            i++;  
        }  
        return -1;  
    }  
    public static void main(String[] args) {  
        System.out.println(func(new int[] {4,7,3,1,8},3));  
    }  
}
```

Select one:

- ☐ 3
- ☒ 2
- ☐ -1
- ☐ 1



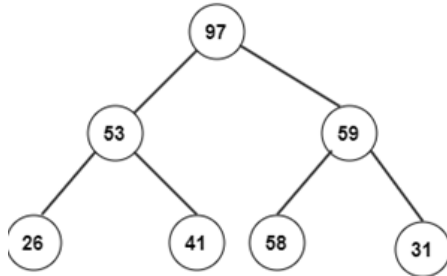
The correct answer is: 2

Question **45**

Correct

Mark 1.00 out of 1.00

[607] Consider the following heap after heap building phase. What will be its corresponding array?



Select one:

- ☐ 26, 53, 41, 97, 58, 59, 31
- ☐ 26, 31, 41, 53, 58, 59, 97
- ☒ 97, 53, 59, 26, 41, 58, 31
- ☐ 26, 41, 53, 97, 31, 58, 59



The correct answer is: 97, 53, 59, 26, 41, 58, 31

Question **46**

Correct

Mark 1.00 out of 1.00

[307] Show the output that will be displayed by the call show2(134);

```

void show2 ( int n )
{
    System.out.print ( n % 10 + "--");
    if ( n > 0 )  show2 ( n / 10 );
}
  
```

Select one:

- ☒ 4-3-1-0-
- ☐ 4310
- ☐ 0134
- ☐ 134



The correct answer is: 4-3-1-0-

Question **47**

Incorrect

Mark 0.00 out of 1.00

[106] Given a linked list which is managed by head and tail pointers. The head points to the first element and the tail points to the last element. The function of removing the last element as bellow. What is the expression in the round bracket?

```
void removeLast()
{
    Node p = head;
    while( _____ )
        p = p.next;
    p.next = null;
    tail = p;
}
```

Select one:

- ☐ p.next != tail
- ☐ p!= null
- ☐ p!= tail
- ☒ p.next != null



The correct answer is: p.next != tail

Question **48**

Correct

Mark 1.00 out of 1.00

[608] Given a function as follow: Given A = {1, 5, 7, 4, 2}. What is the output?

```
void func(int A[]){
    int i, j, tmp;
    for(i = 1; i < A.length; i++)
    {
        tmp = A[i];
        j=i;
        while(j>0 && A[j-1] > tmp)
        {
            A[j] = A[j-1];
            j--;
        }
        A[j] = tmp;
    }
    for(i = 0; i < A.length; i++)
        System.out.print(A[i]);
}
```

Select one:

- ☐ 2 4 7 5 1
- ☐ 1 5 7 4 2
- ☐ 7 5 4 2 1
- ☒ 1 2 4 5 7



The correct answer is: 1 2 4 5 7

Question **49**

Correct

Mark 1.00 out of 1.00

[704] The message "The hash table is full" might occur when you are using a _____ chaining hash method.

Select one:

- ☐ Quadratic probing only
- ☒ Linear and quadratic probing
- ☐ Separate
- ☐ Linear probing only



The correct answer is: Linear and quadratic probing

Question **50**

Correct

Mark 1.00 out of 1.00

[805] Given the information of the code for 6 letters as below. The average code length is _____

Character	Length	Probability
A	3	.20
B	4	.09
C	3	.15
D	3	.11
E	1	.40
F	4	.05

Select one:

- ☐ 6.34 digits
- ☐ 0.33 digits
- ☒ 2.34 digits
- ☐ 6 digits



The correct answer is: 2.34 digits

◀ VIDEO: Huffman coding and compressing

Jump to...