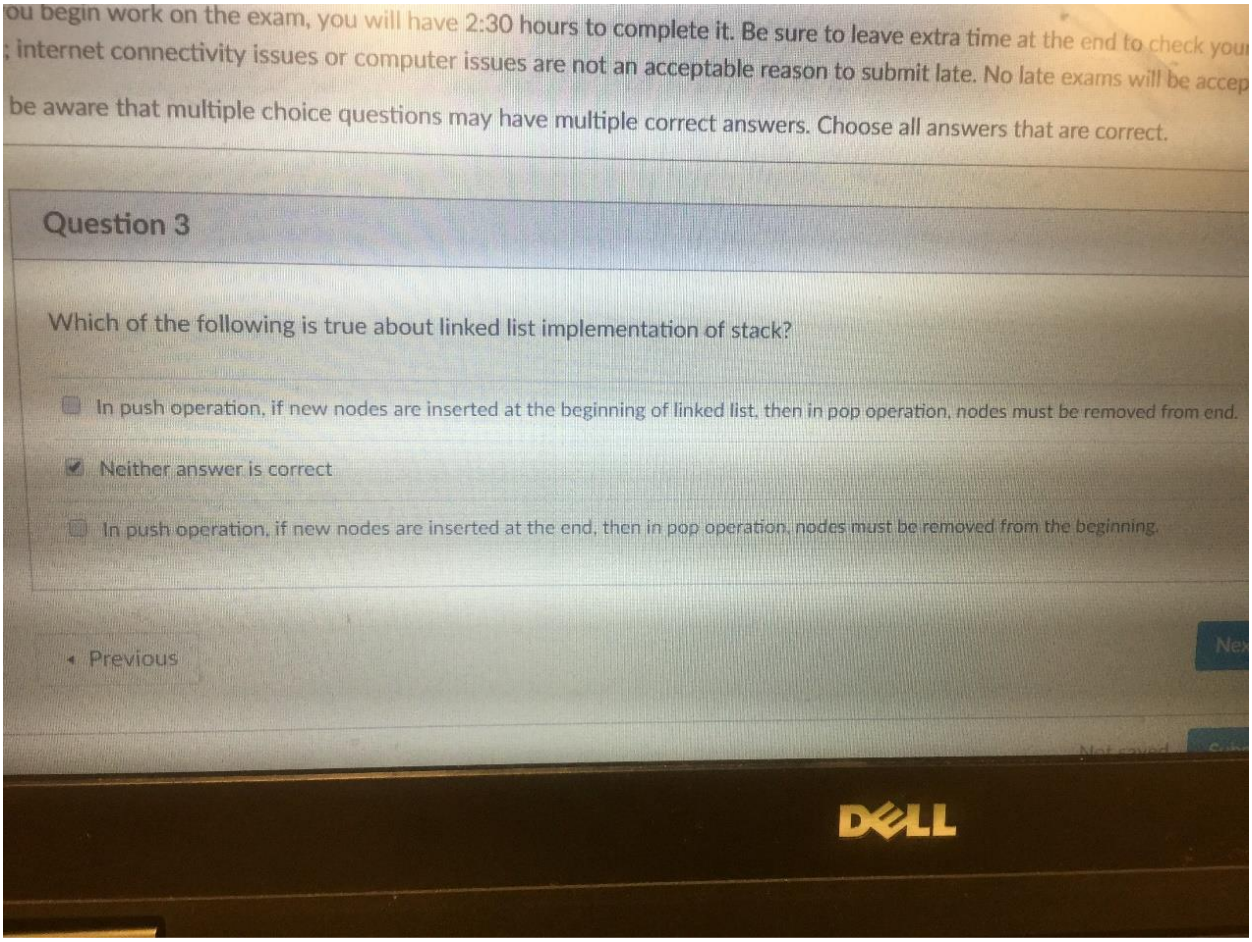
3.



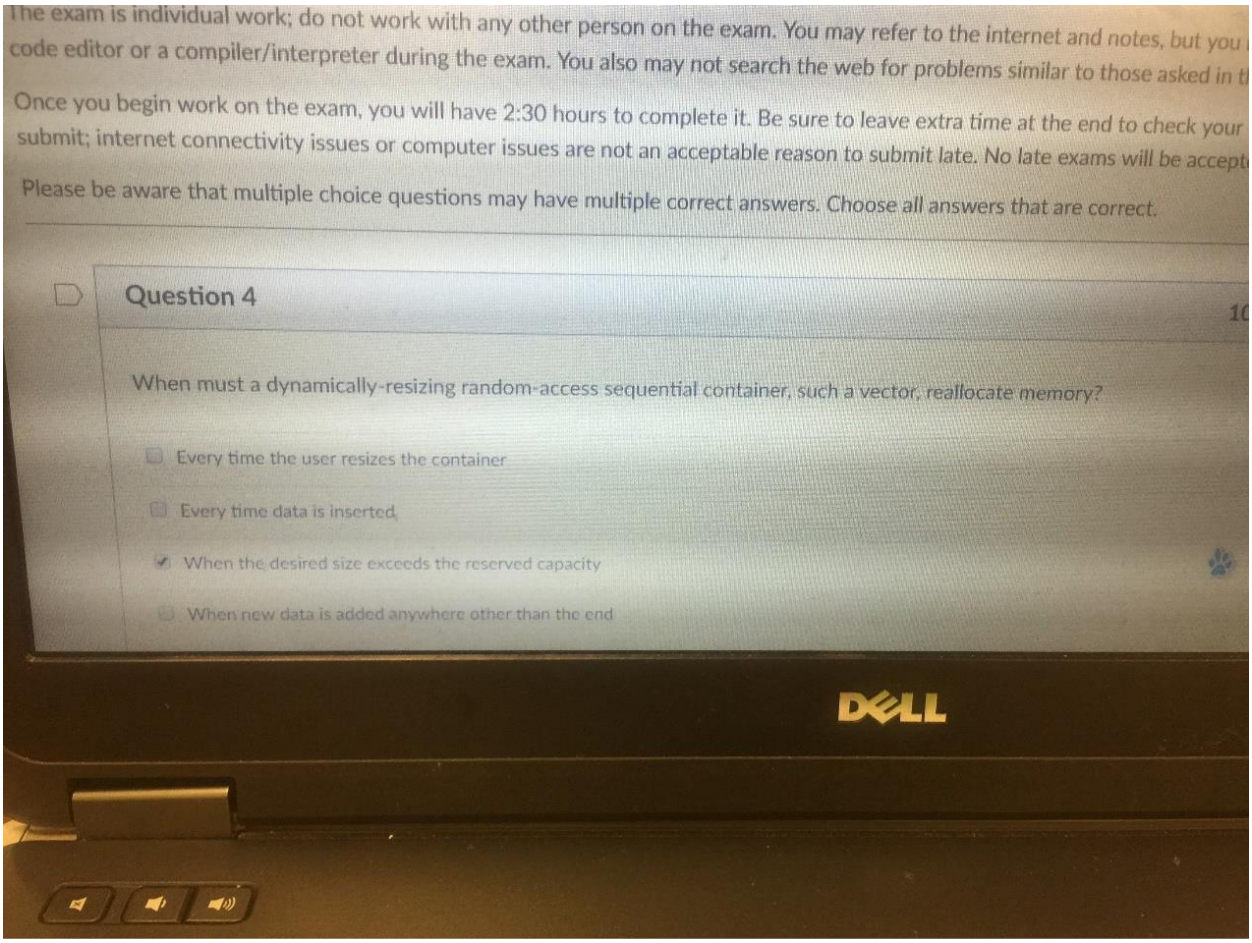
Which of the following is true about linked list implementation of stack?
(A) In push operation, if new nodes are inserted at the beginning of linked list, then in pop operation, nodes must be removed from end.
(B) In push operation, if new nodes are inserted at the end, then in pop operation, nodes must be removed from the beginning.
(C) Both of the above
(D) None of the above

Answer: NONE

Explanation: To keep the **L**ast **I**n **F**irst **O**ut order, a stack can be implemented using linked list in two ways:
a) In push operation, if new nodes are inserted at the beginning of linked list, then in pop operation, nodes must be removed from beginning.

b) In push operation, if new nodes are inserted at the end of linked list, then in pop operation, nodes must be removed from end.

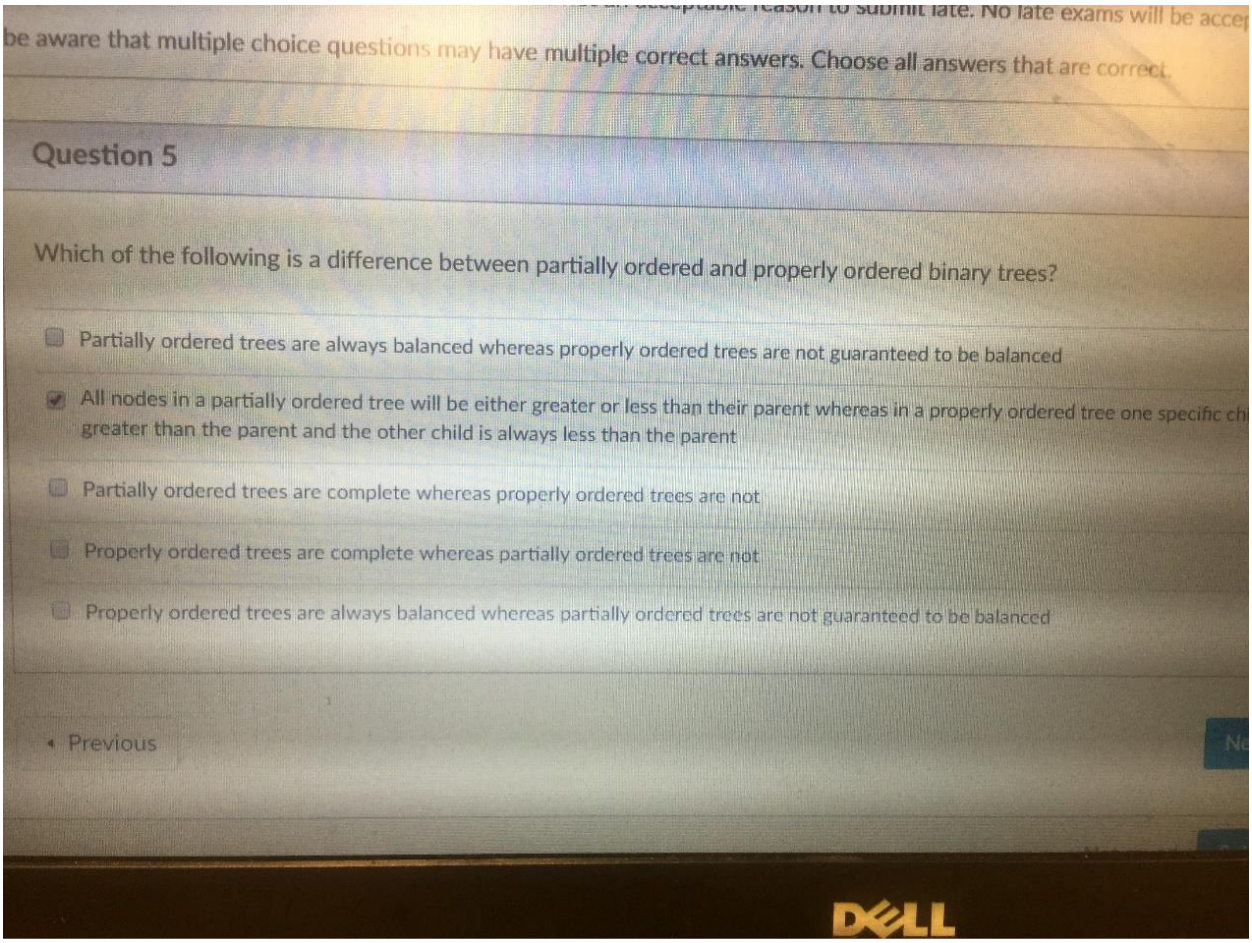
4.



Answer: When the desired size exceeds the reserved capacity.

Reallocation invalidates(使无效) all the references, pointers, and iterators referring to the elements in the sequence. It is **guaranteed that no reallocation takes place** during insertions that happen after a call to reserve() until the time when an insertion would make the size of the vector greater than the size specified in the most recent call to reserve().

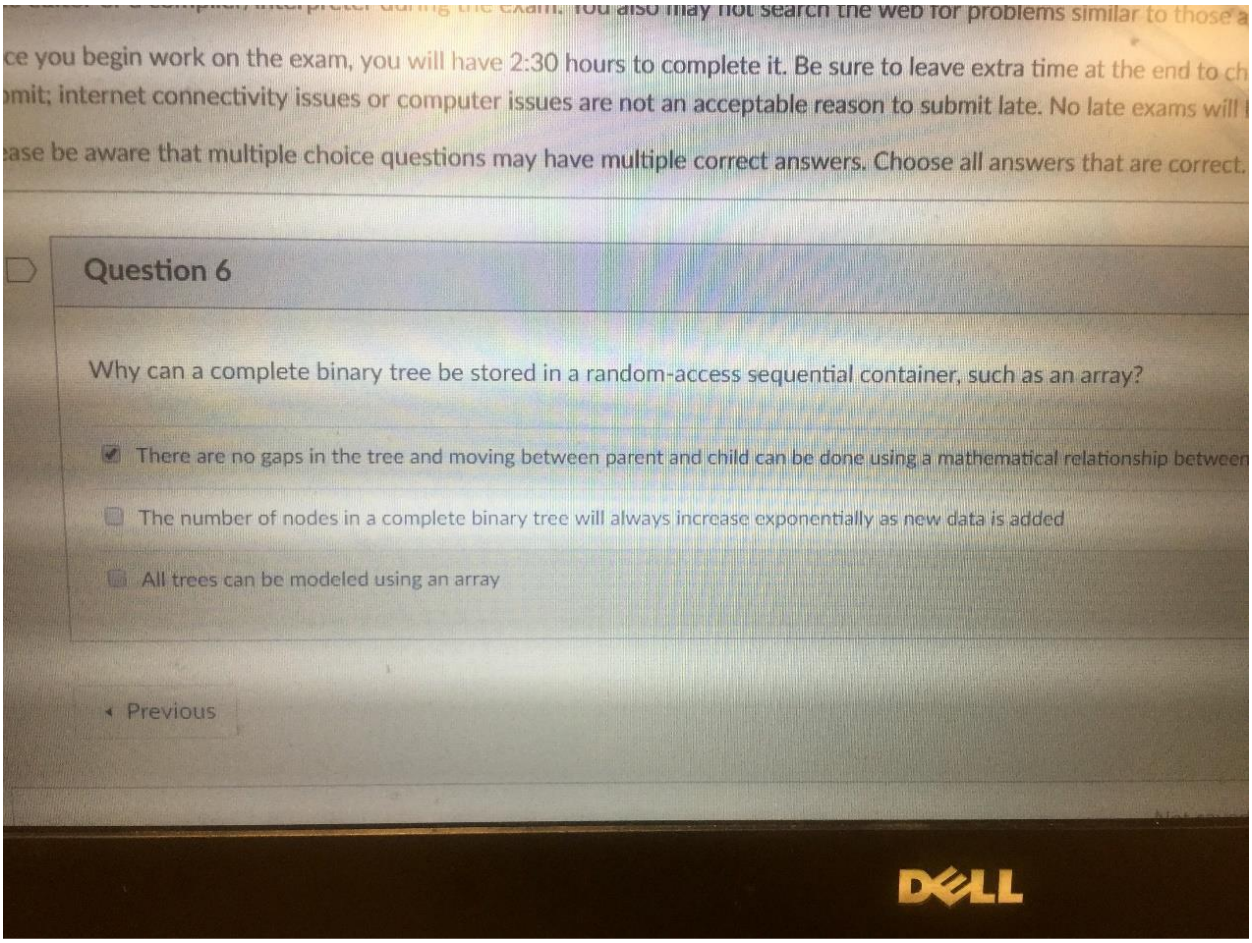
5.



??? Properly ordered

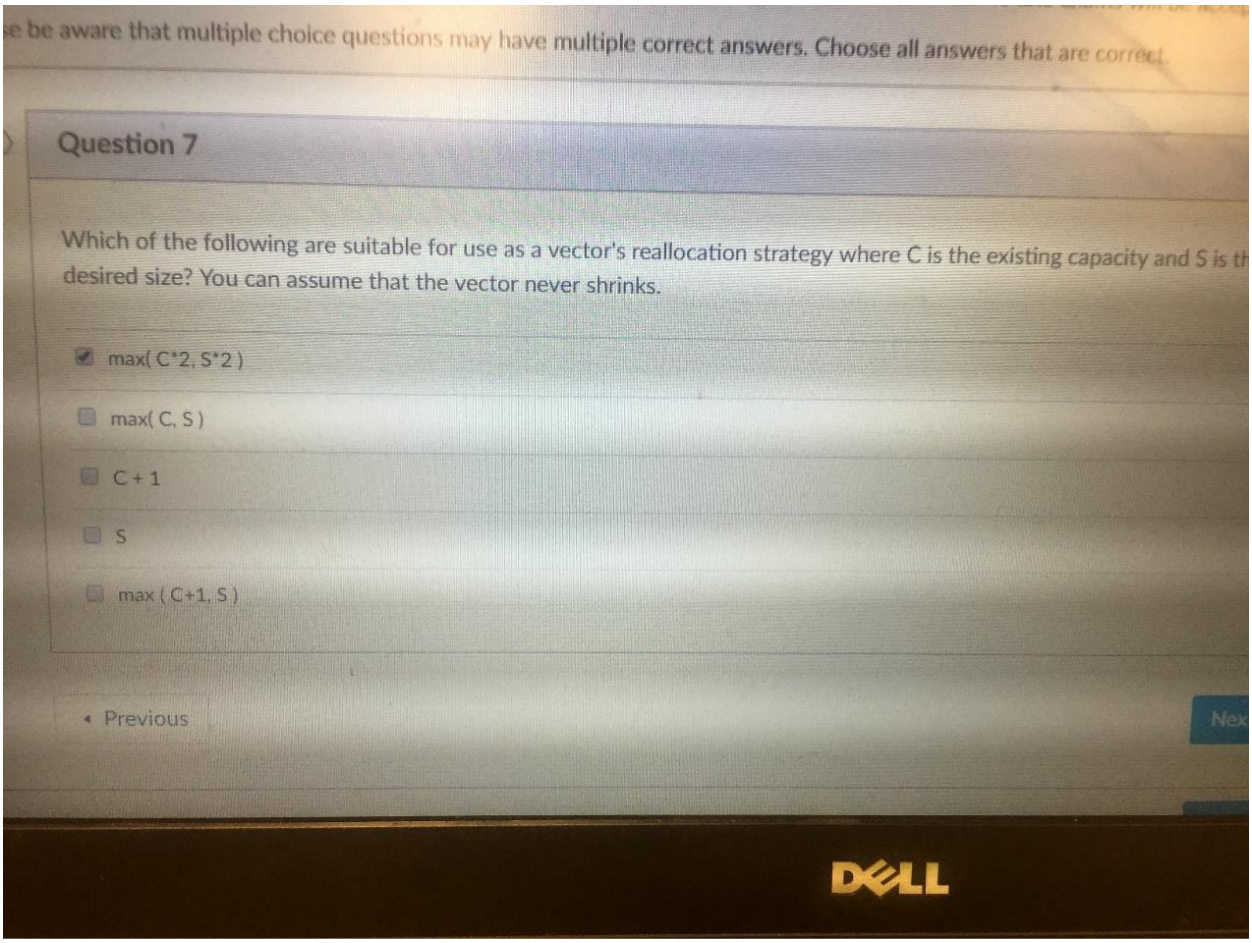
Properly ordered trees are complete whereas partially ordered trees are not.

6.



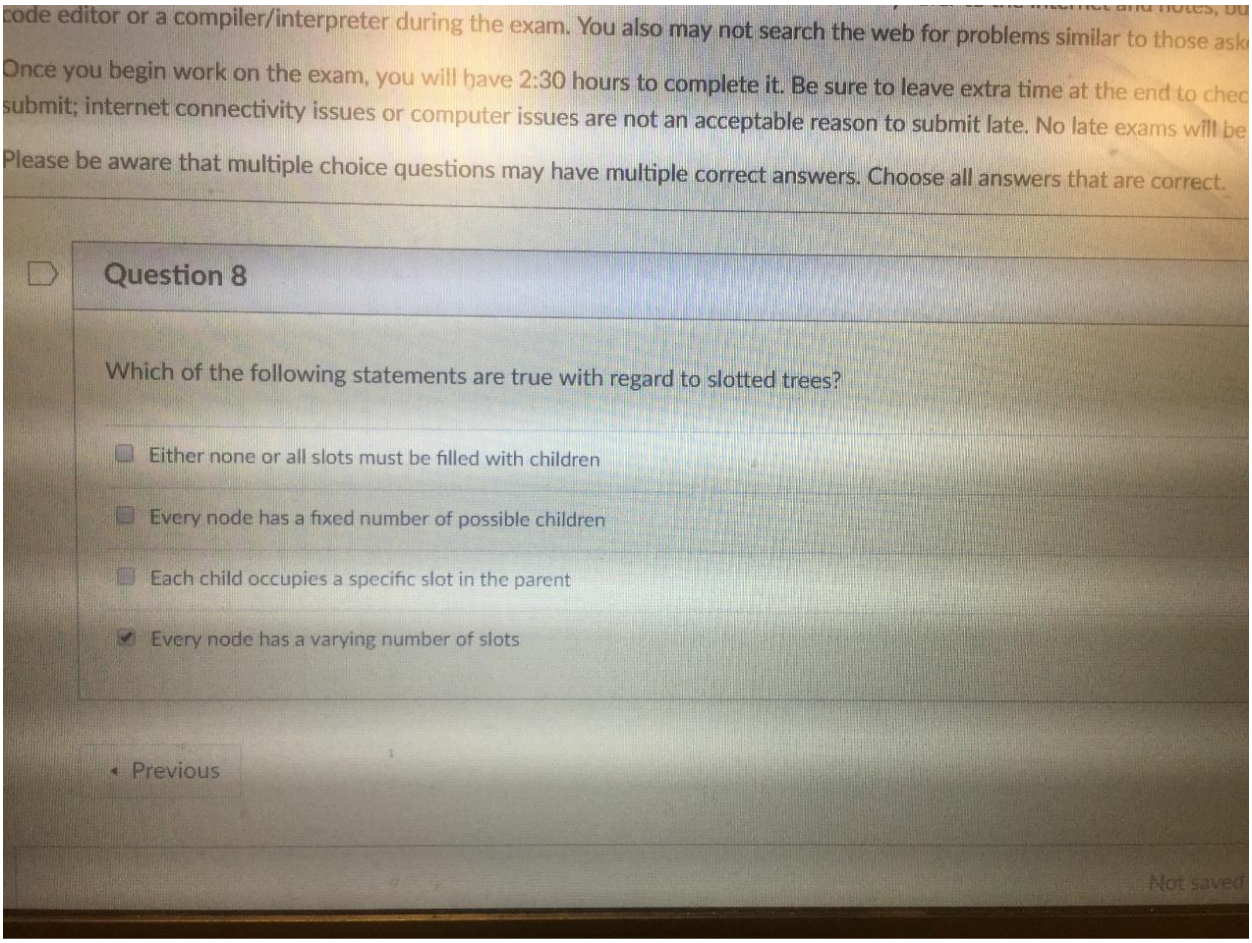
No gaps in the tree and moving between parent and child can e done

7.


e be aware that multiple choice questions may have multiple correct answers. Choose all answers that are correct.
Question 7
Which of the following are suitable for use as a vector's reallocation strategy where C is the existing capacity and S is th
desired size? You can assume that the vector never shrinks.
max(C*2, S*2)
max(C, S)
C + 1
S
max (C+1, S)
Previous
Nex
DELL

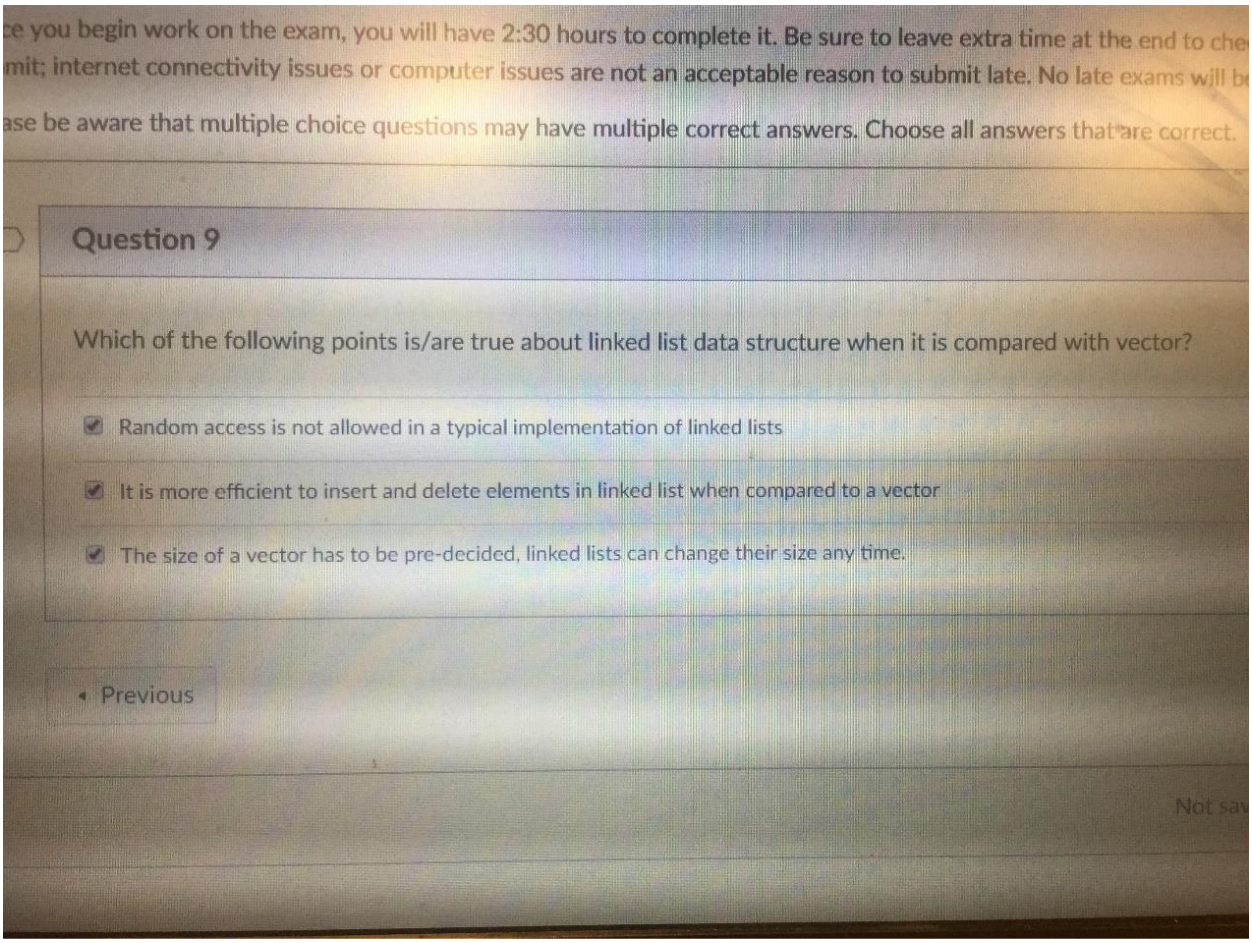
Max(c*2,s*2)

8.



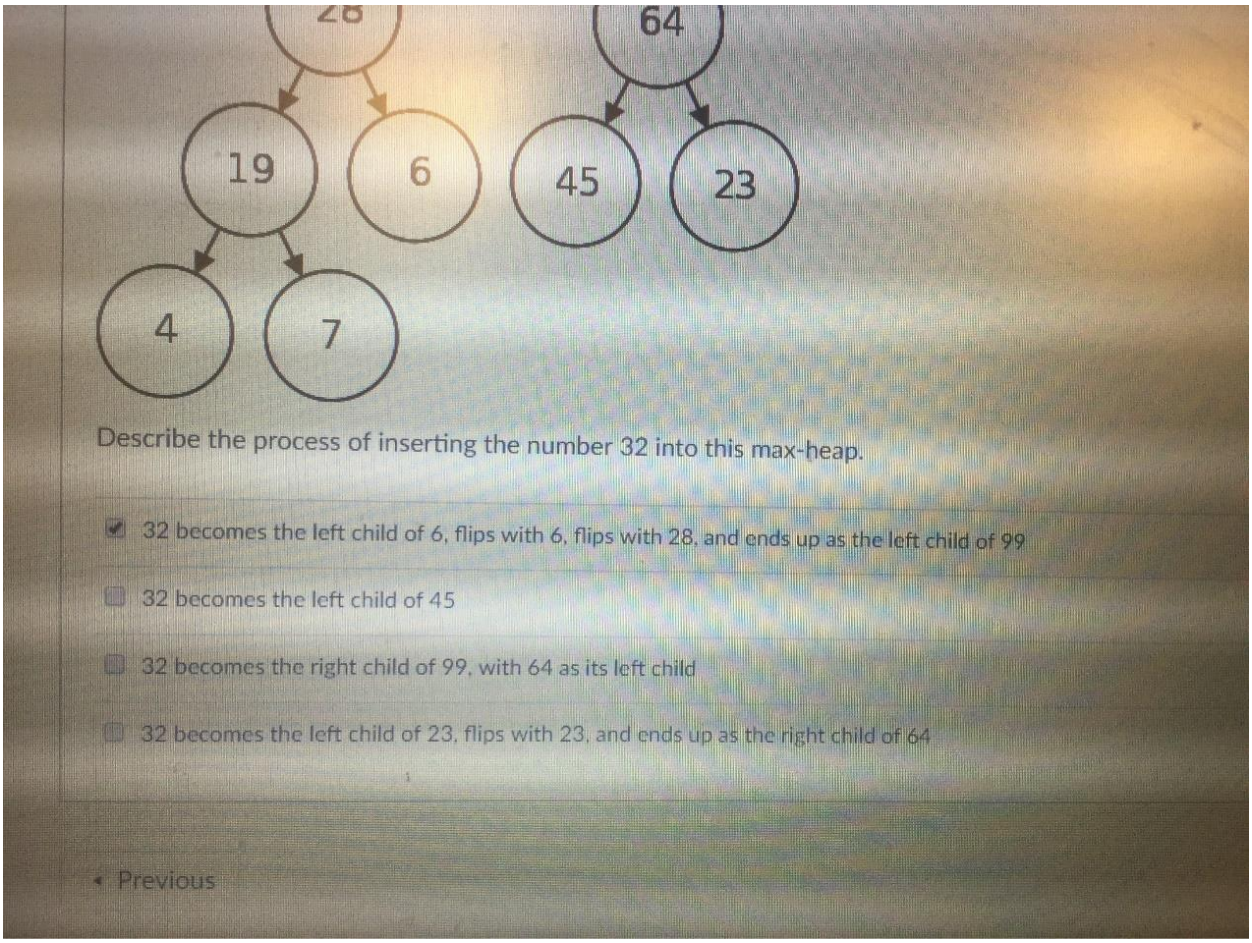
Every node has a varying number of slots

9.



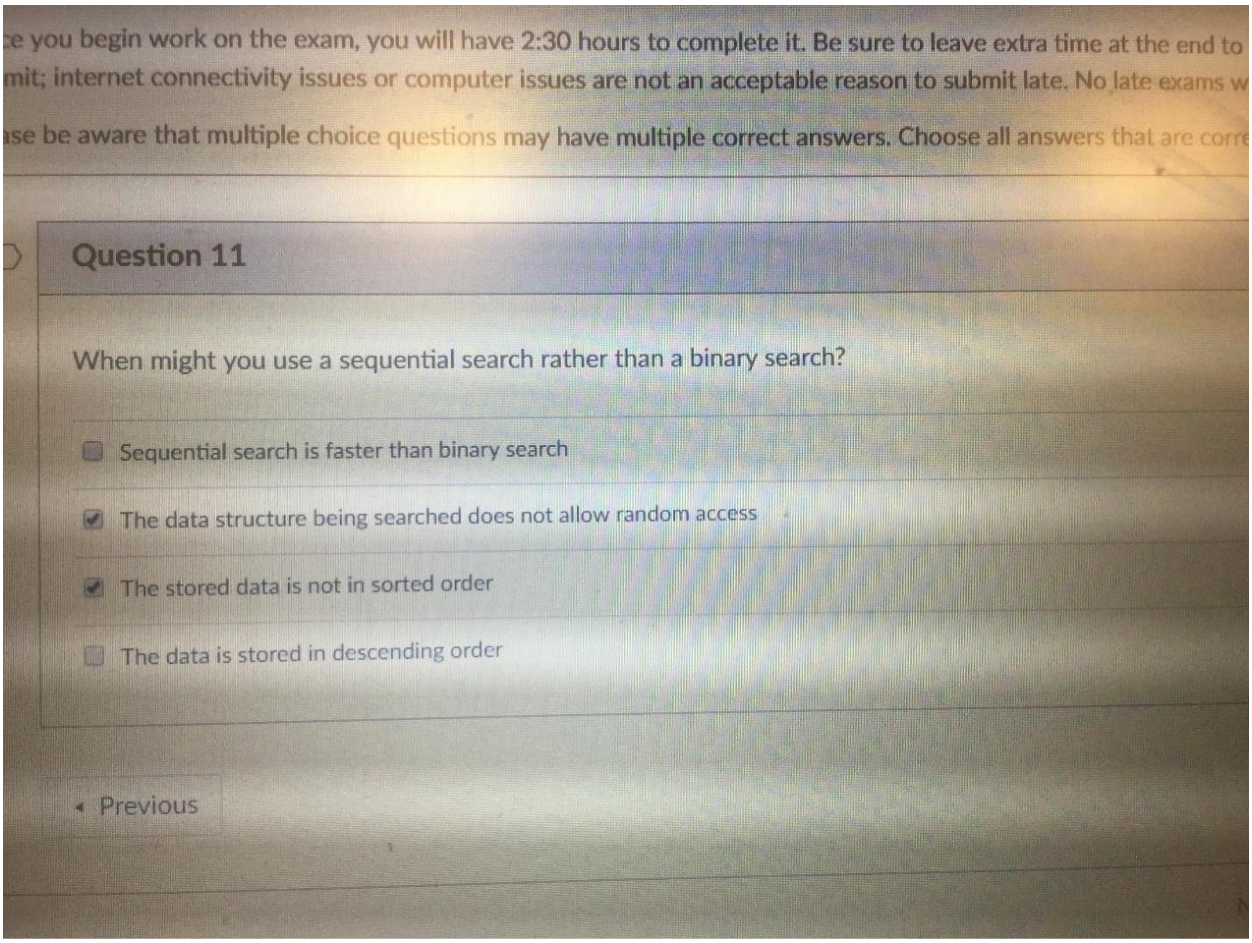
All correct

10.



32 becomes left child of 6 then flips and flips

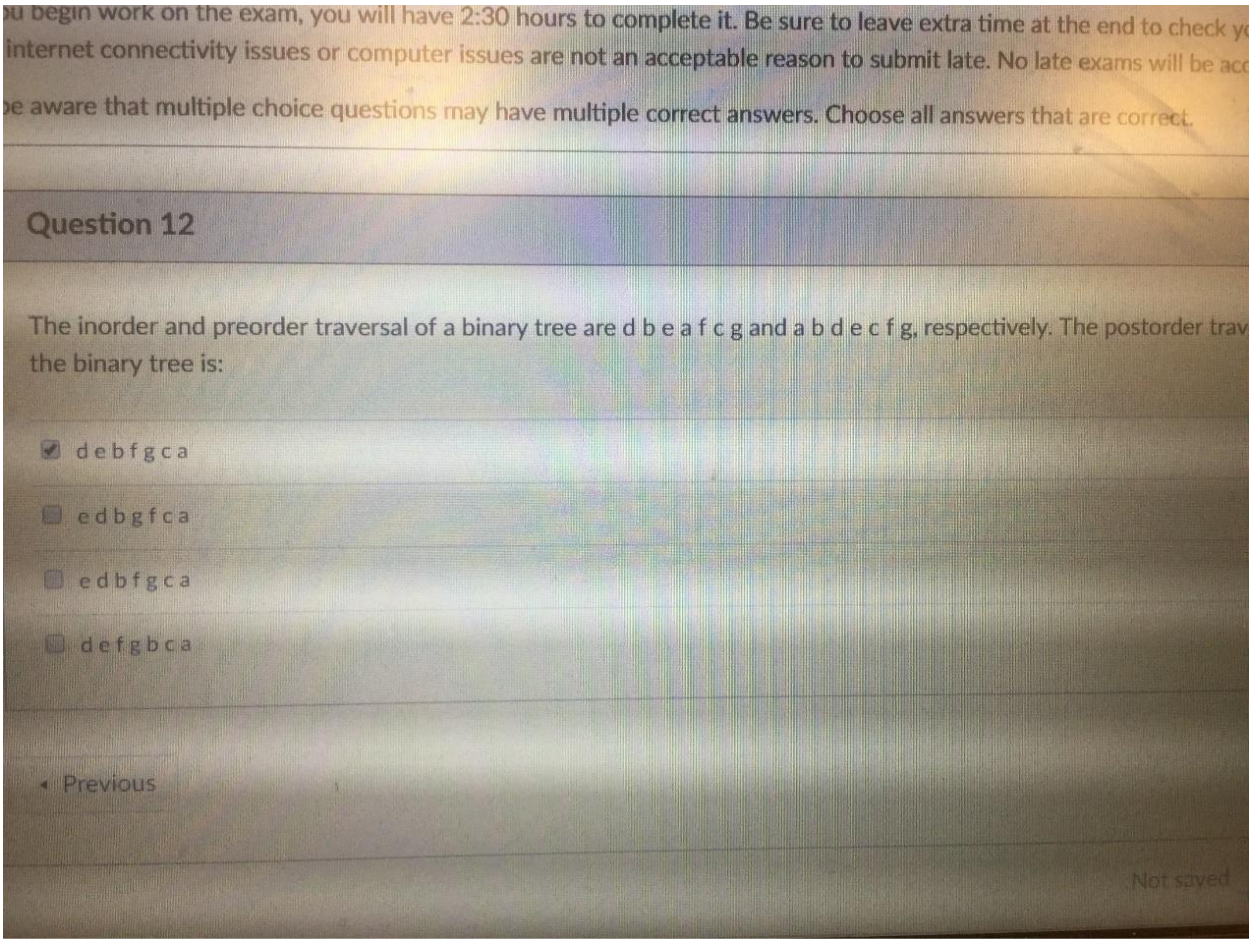
11.



Binary has to allow random access

Binary has to be in sorted order

12.



In-order (Left, Root, Right)

Pre-order (Root, Left, Right)

Post-order (Left, Right, Root)

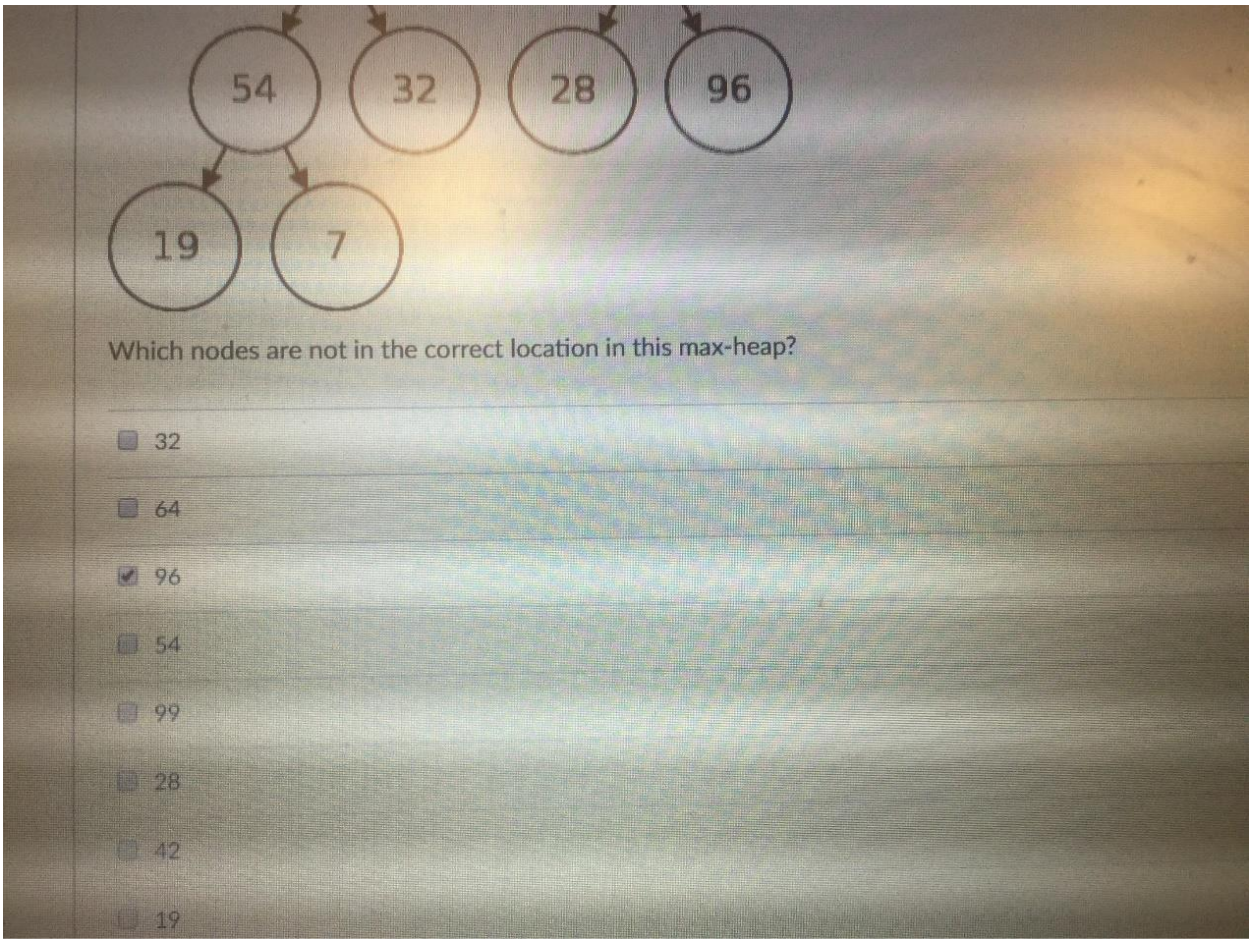
a

b c

d e f g

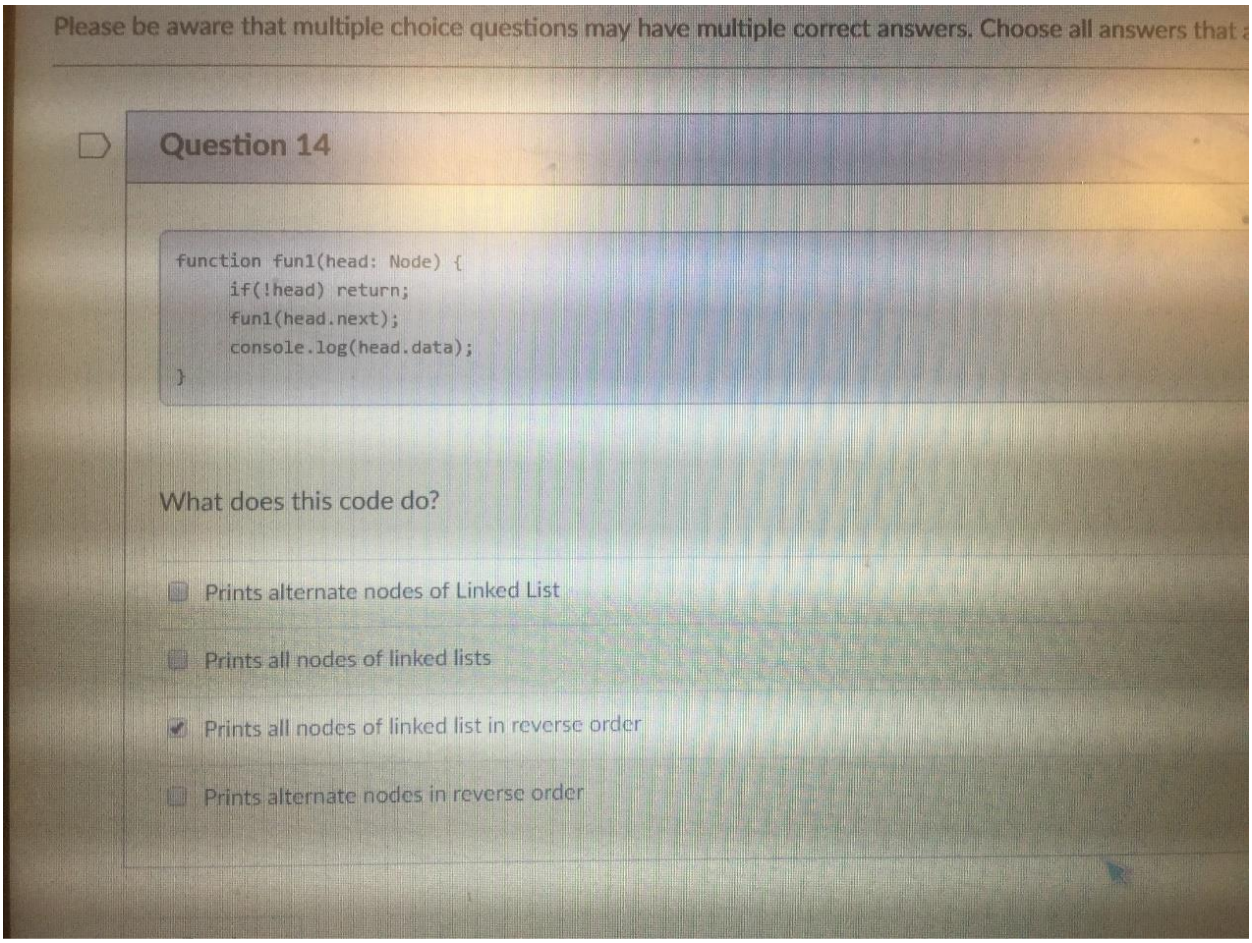
Post-order d e b f g c a

13.



Max-heap, not in correct, 96, the right child too big.

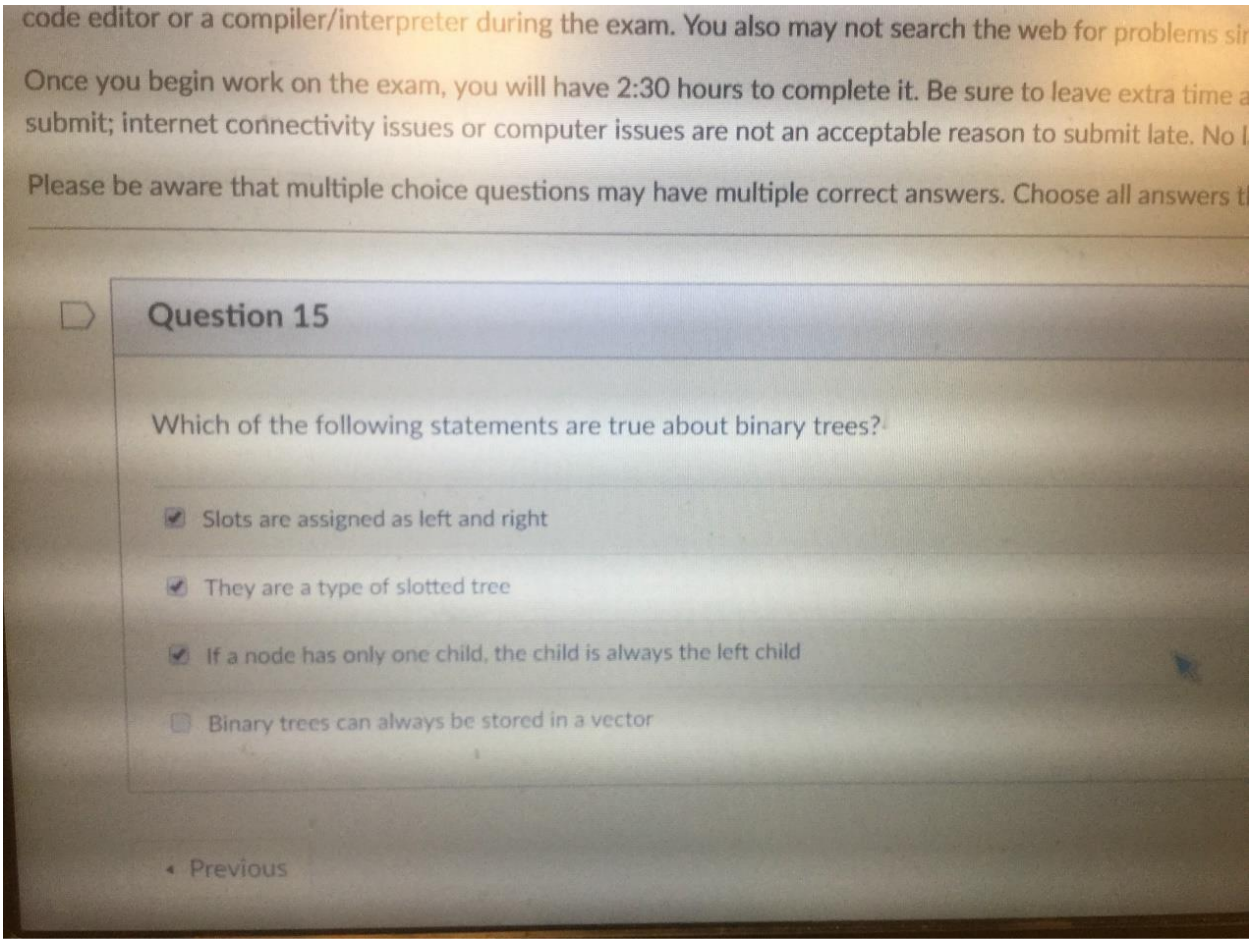
14.



If(!head) return;

Print all nodes of linked list in reverse order

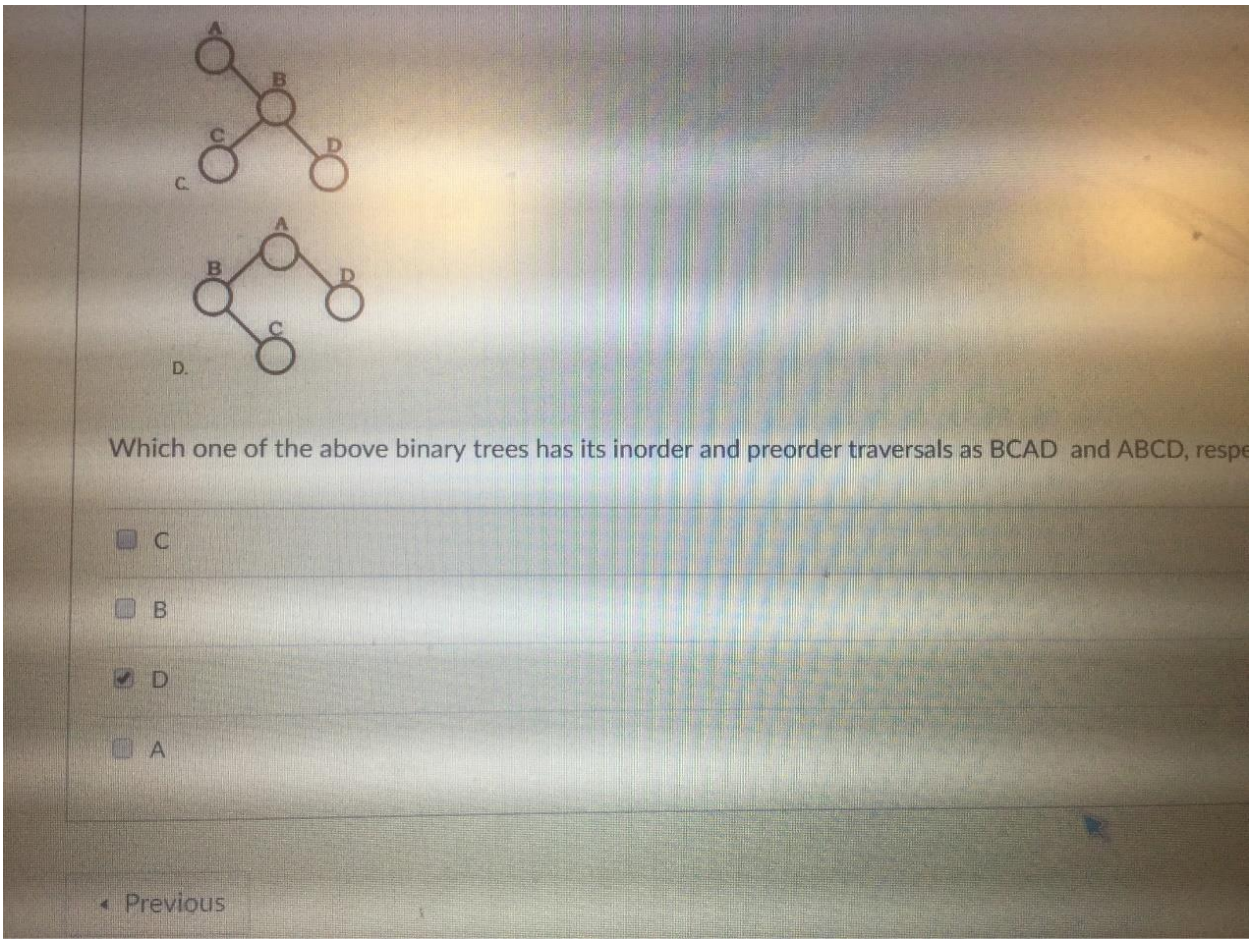
15. ???



Slots are assigned left and right

They are a type of slotted tree

16.



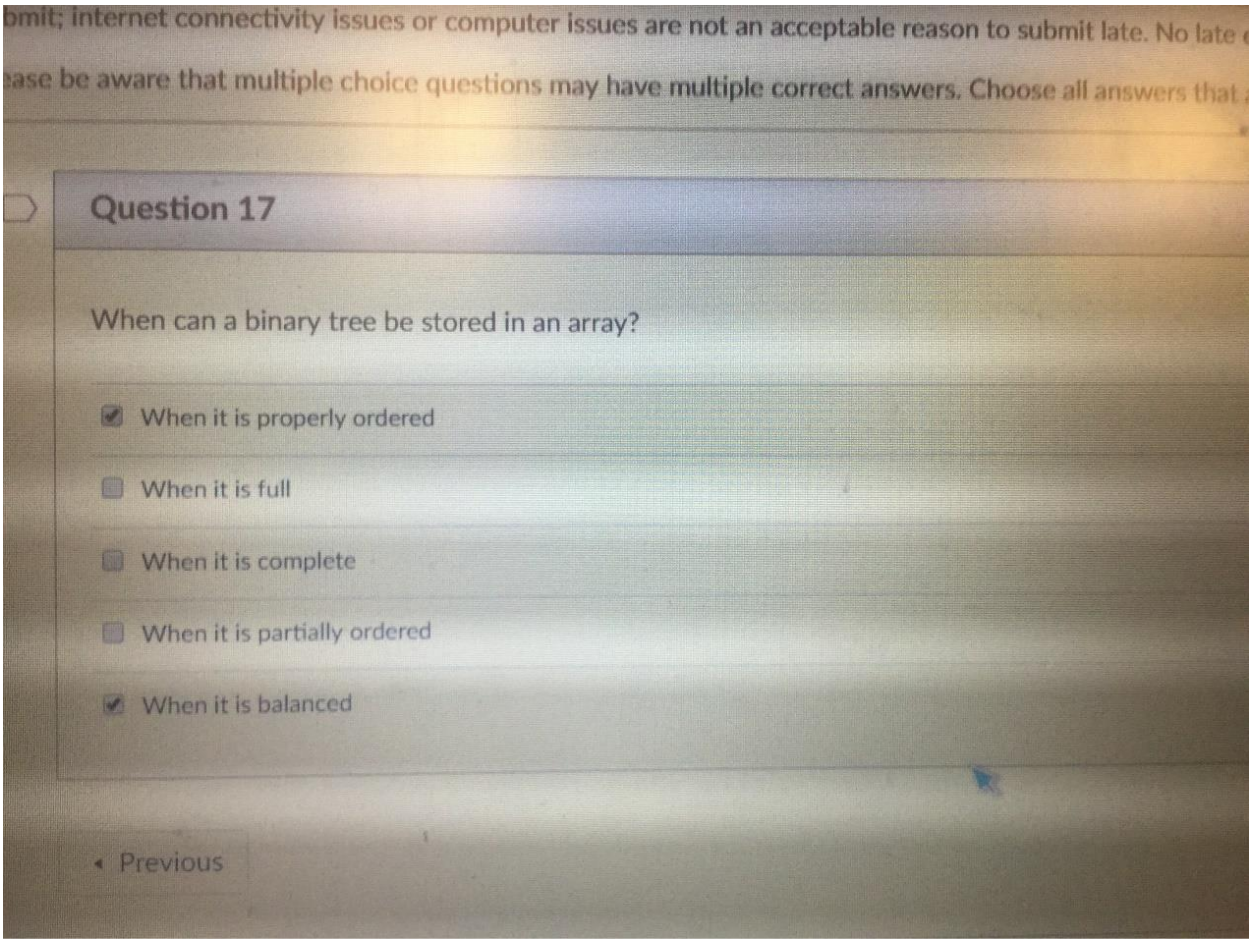
In-order (Left, Root, Right)

Pre-order (Root, Left, Right)

Post-order (Left, Right, Root)

D.

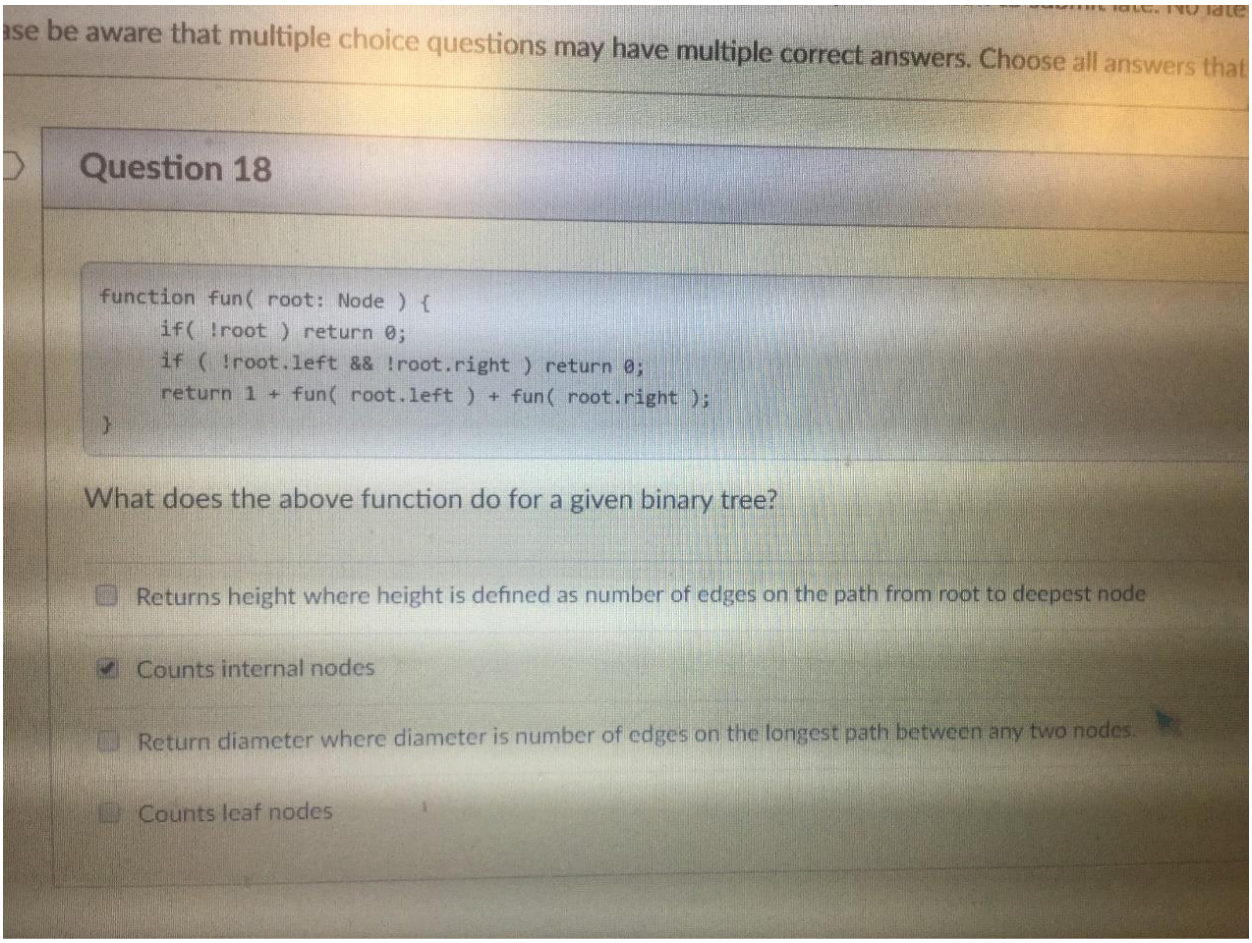
17.



When properly ordered

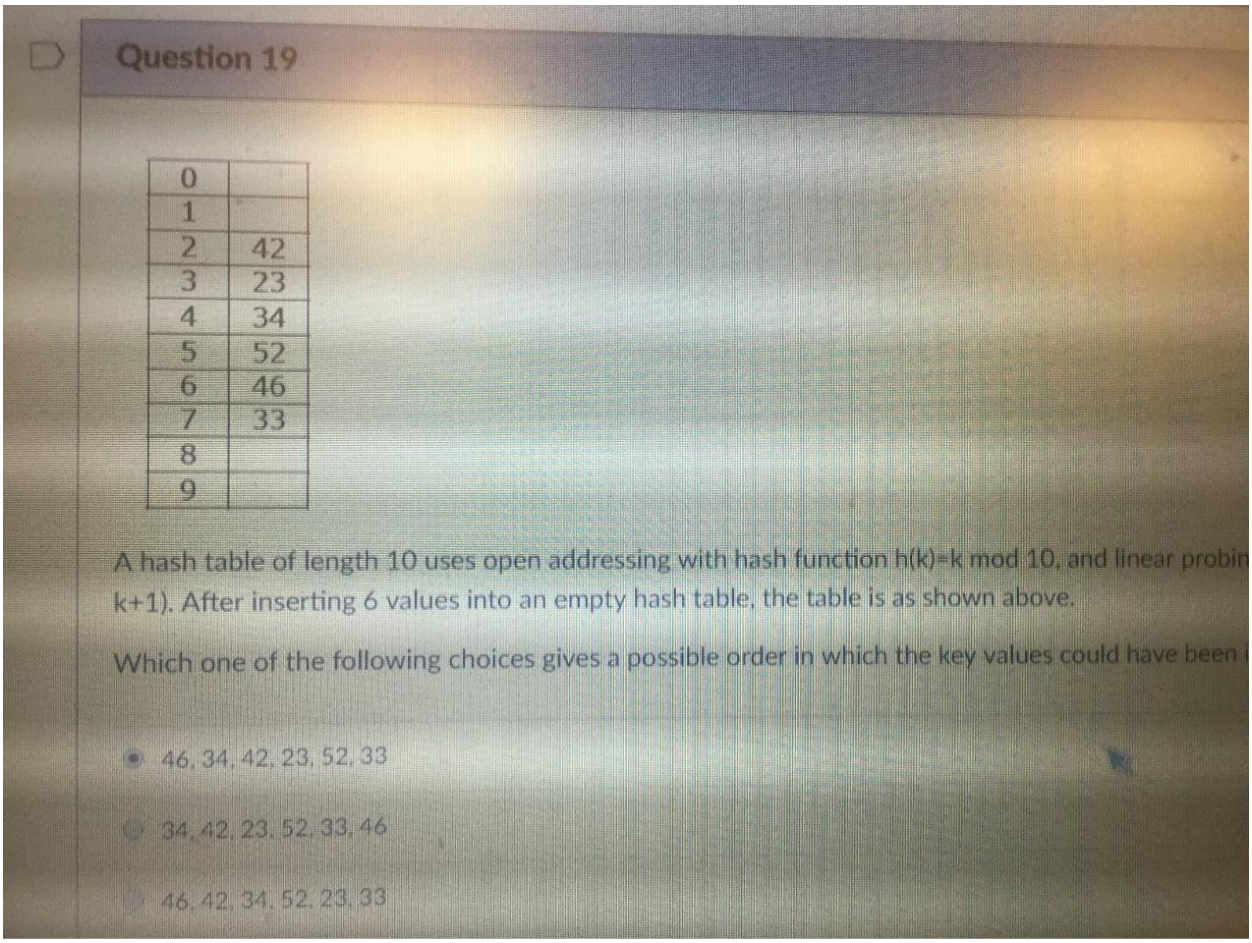
When balanced

18.



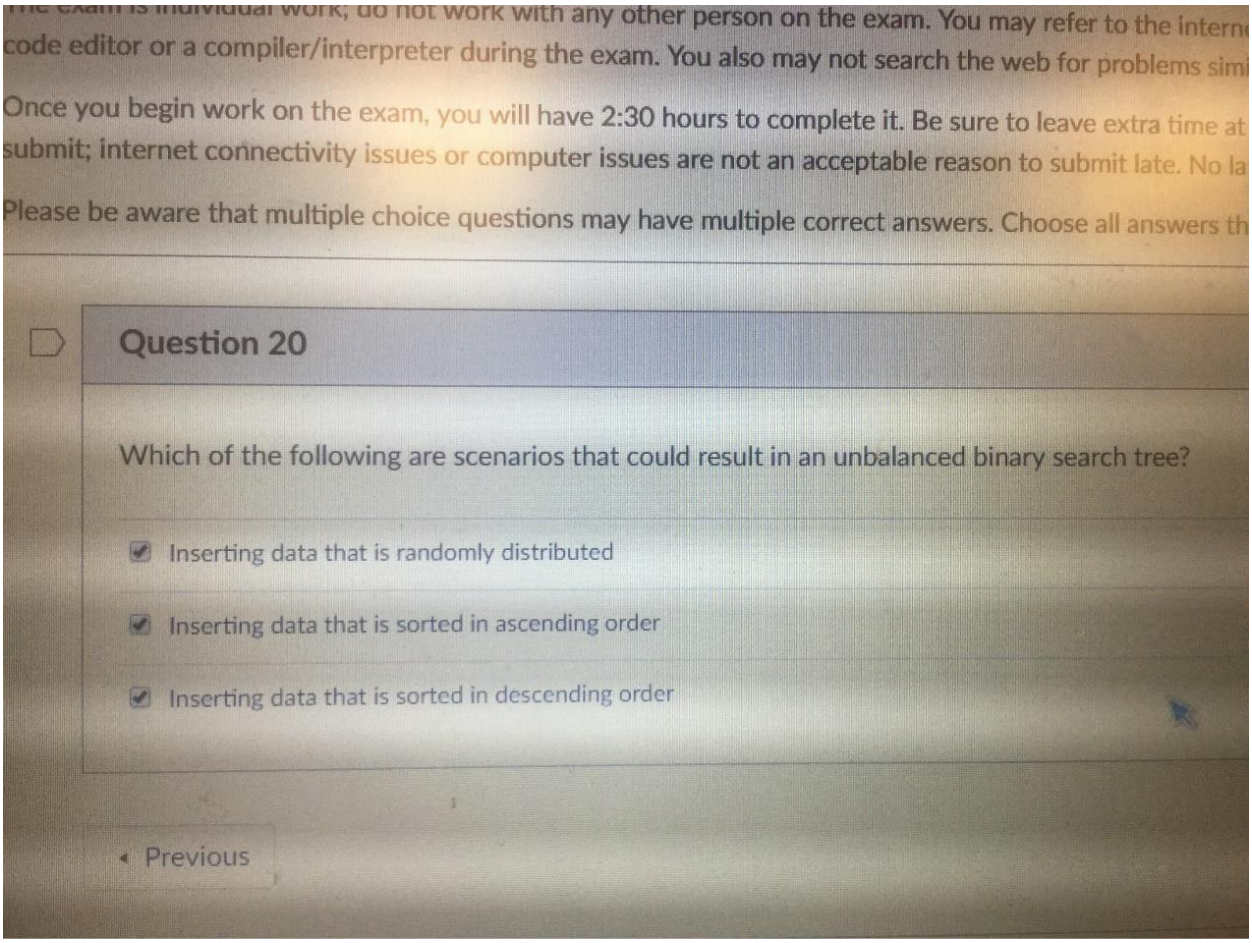
Counts internal nodes

19.



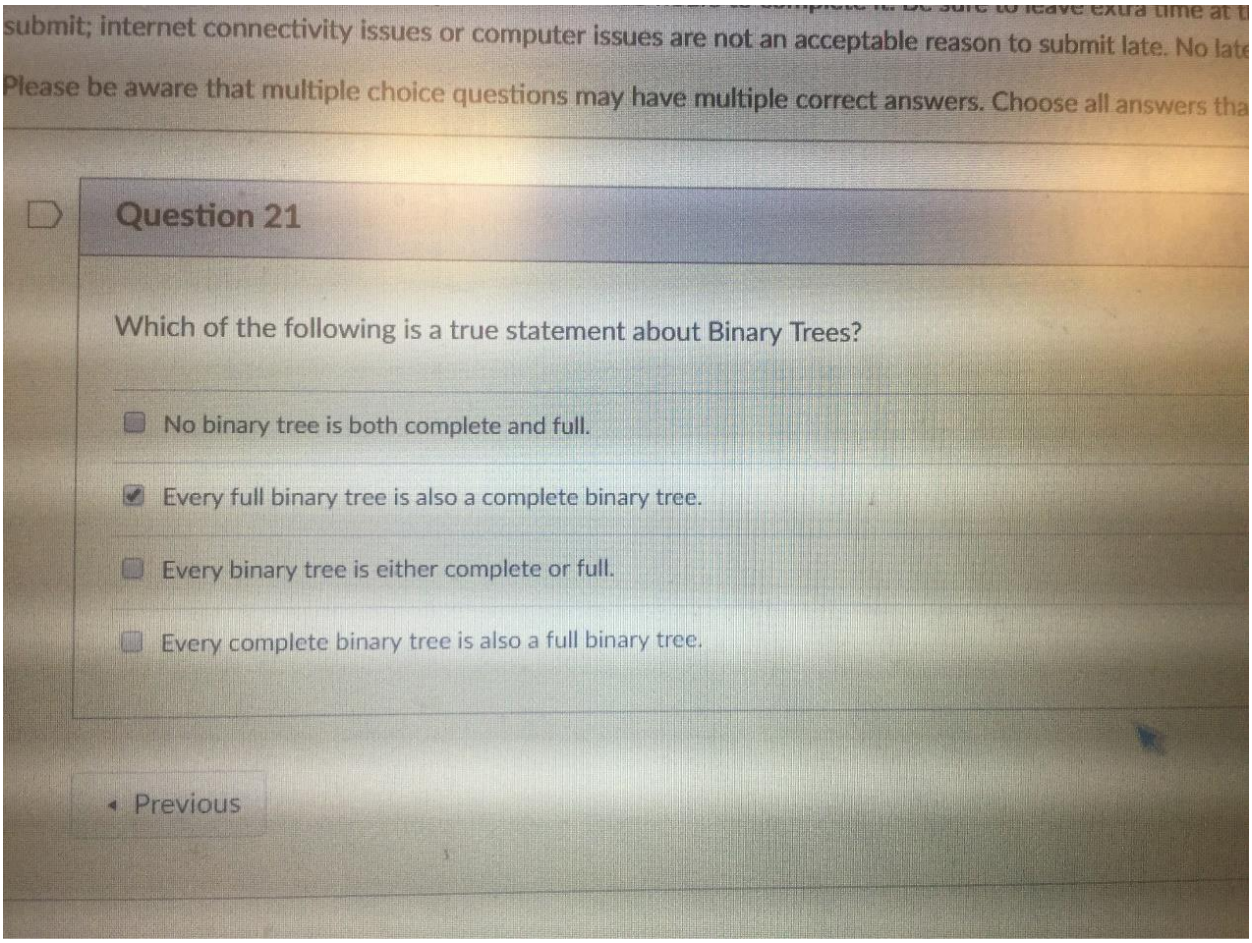
46 34 42 23 52 33

20.


The exam is individual work; do not work with any other person on the exam. You may refer to the interne
code editor or a compiler/interpreter during the exam. You also may not search the web for problems simi
Once you begin work on the exam, you will have 2:30 hours to complete it. Be sure to leave extra time at
submit; internet connectivity issues or computer issues are not an acceptable reason to submit late. No la
Please be aware that multiple choice questions may have multiple correct answers. Choose all answers th
Question 20
Which of the following are scenarios that could result in an unbalanced binary search tree?
Inserting data that is randomly distributed
Inserting data that is sorted in ascending order
Inserting data that is sorted in descending order
Previous

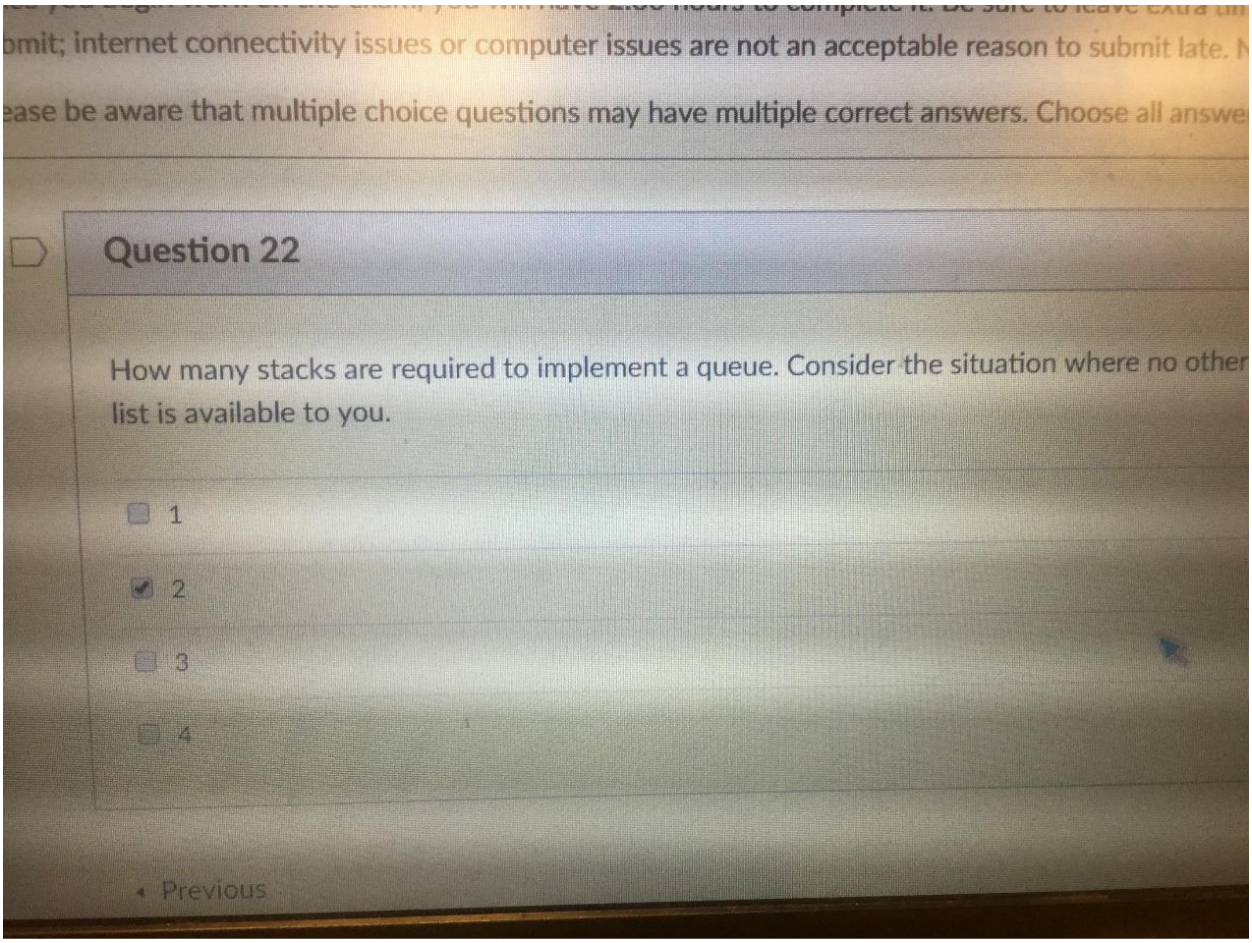
All 3

21.



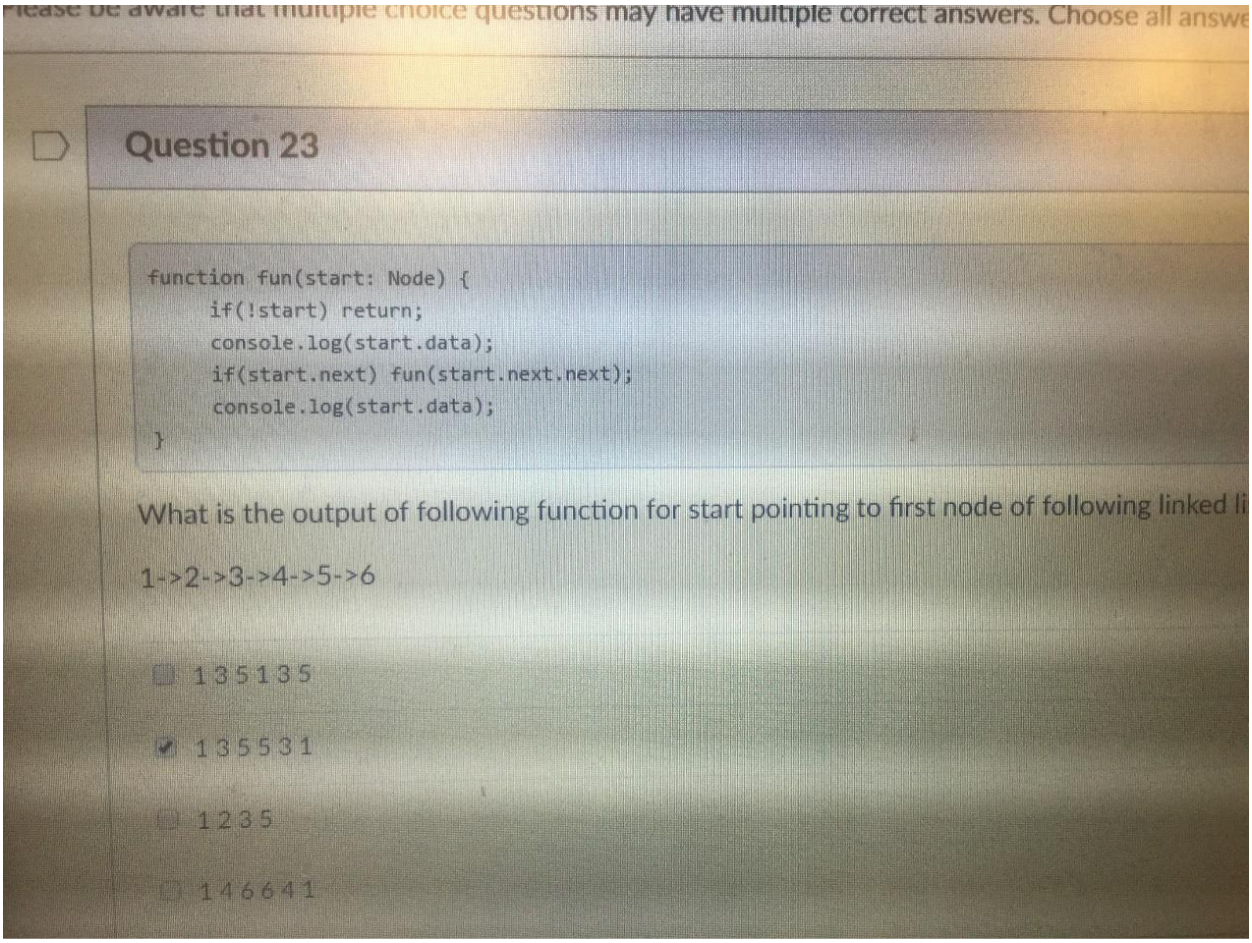
None is correct

22.


bmit; internet connectivity issues or computer issues are not an acceptable reason to submit late.
ease be aware that multiple choice questions may have multiple correct answers. Choose all answe
Question 22
How many stacks are required to implement a queue. Consider the situation where no other
list is available to you.
1
2
3
4
Previous

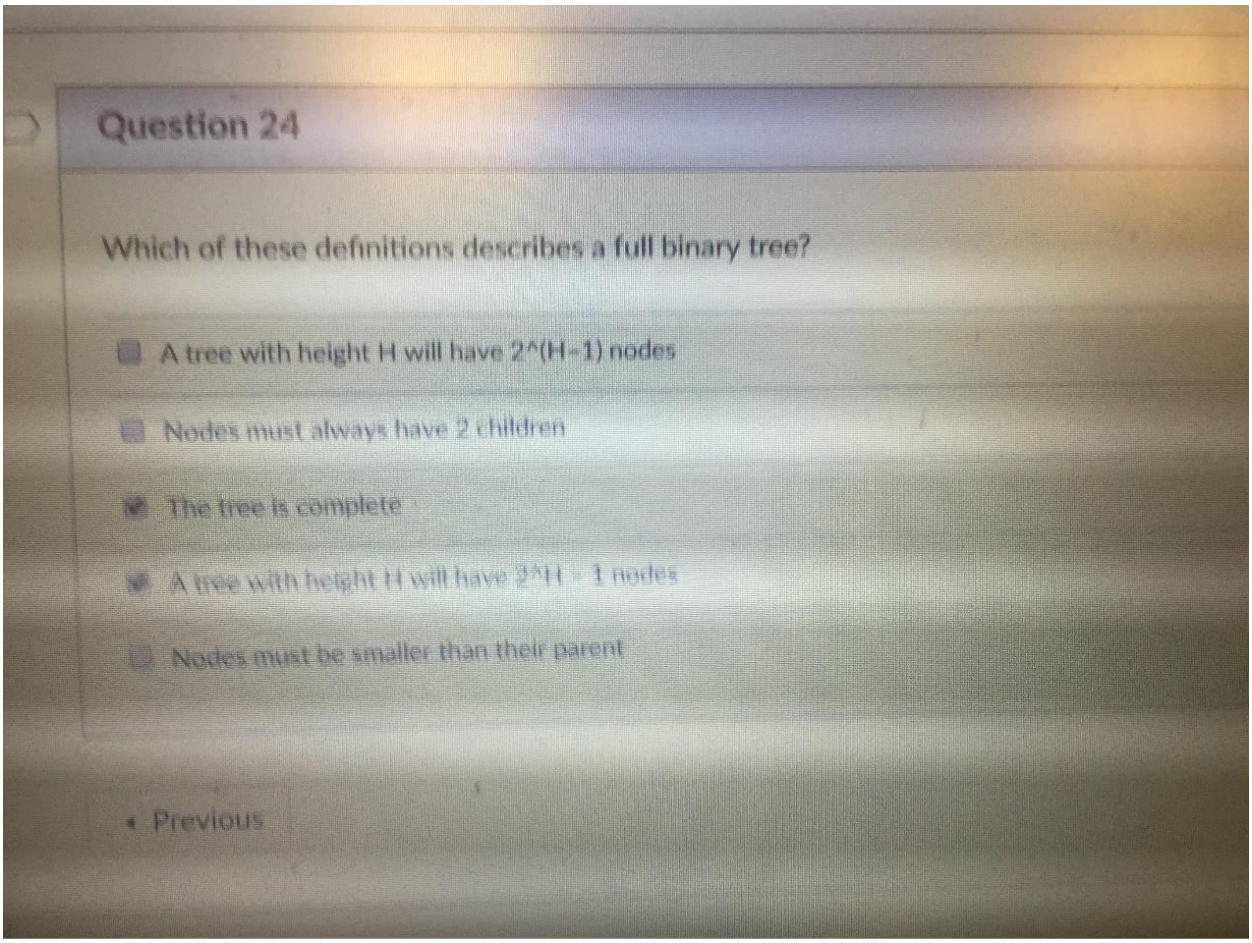
2

23.


Please be aware that multiple choice questions may have multiple correct answers. Choose all answe
Question 23
function fun(start: Node) {
if(!start) return;
console.log(start.data);
if(start.next) fun(start.next.next);
console.log(start.data);
}
What is the output of following function for start pointing to first node of following linked li
1->2->3->4->5->6
1 3 5 1 3 5
1 3 5 5 3 1
1 2 3 5
1 4 6 6 4 1

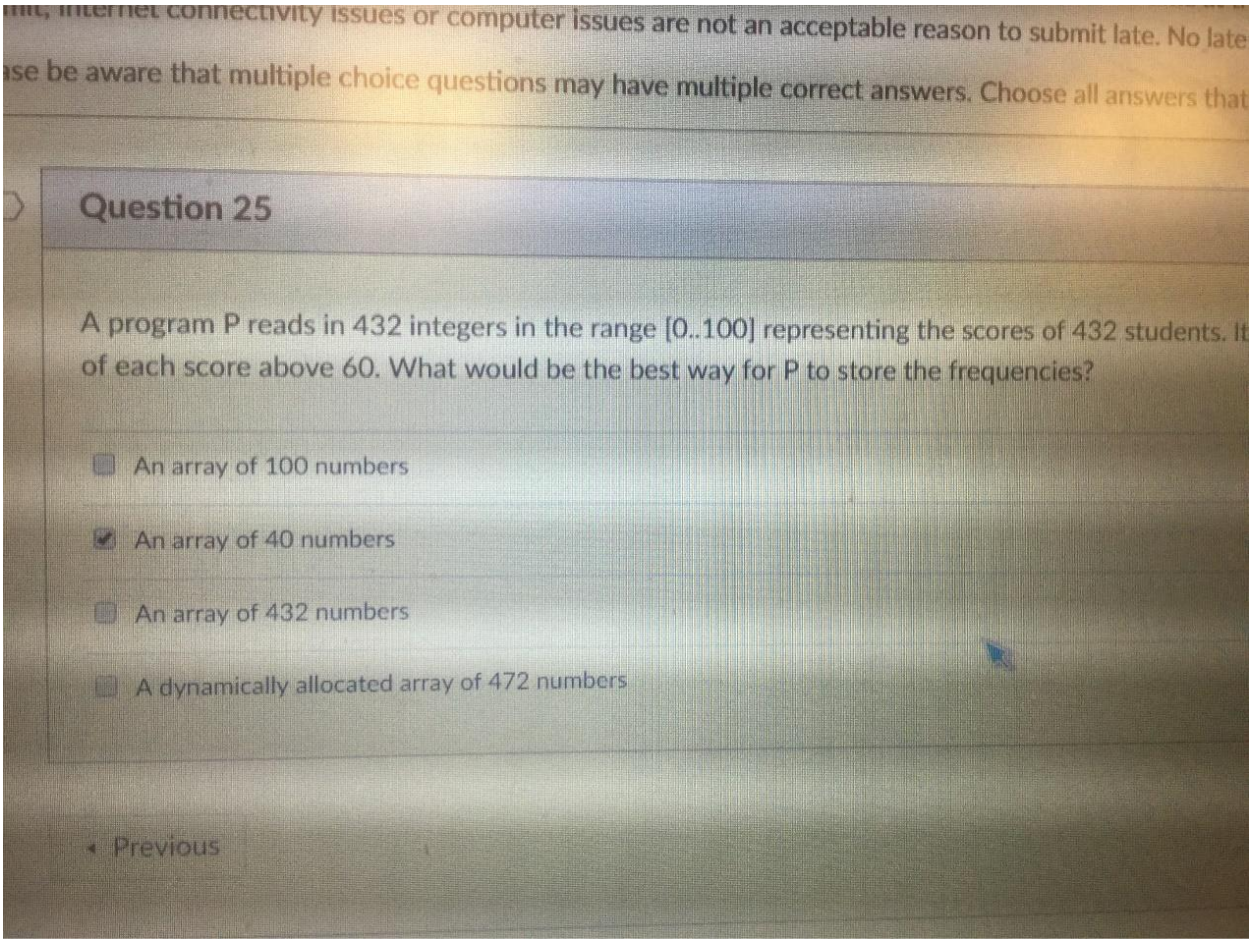
1 3 5 5 3 1

24.



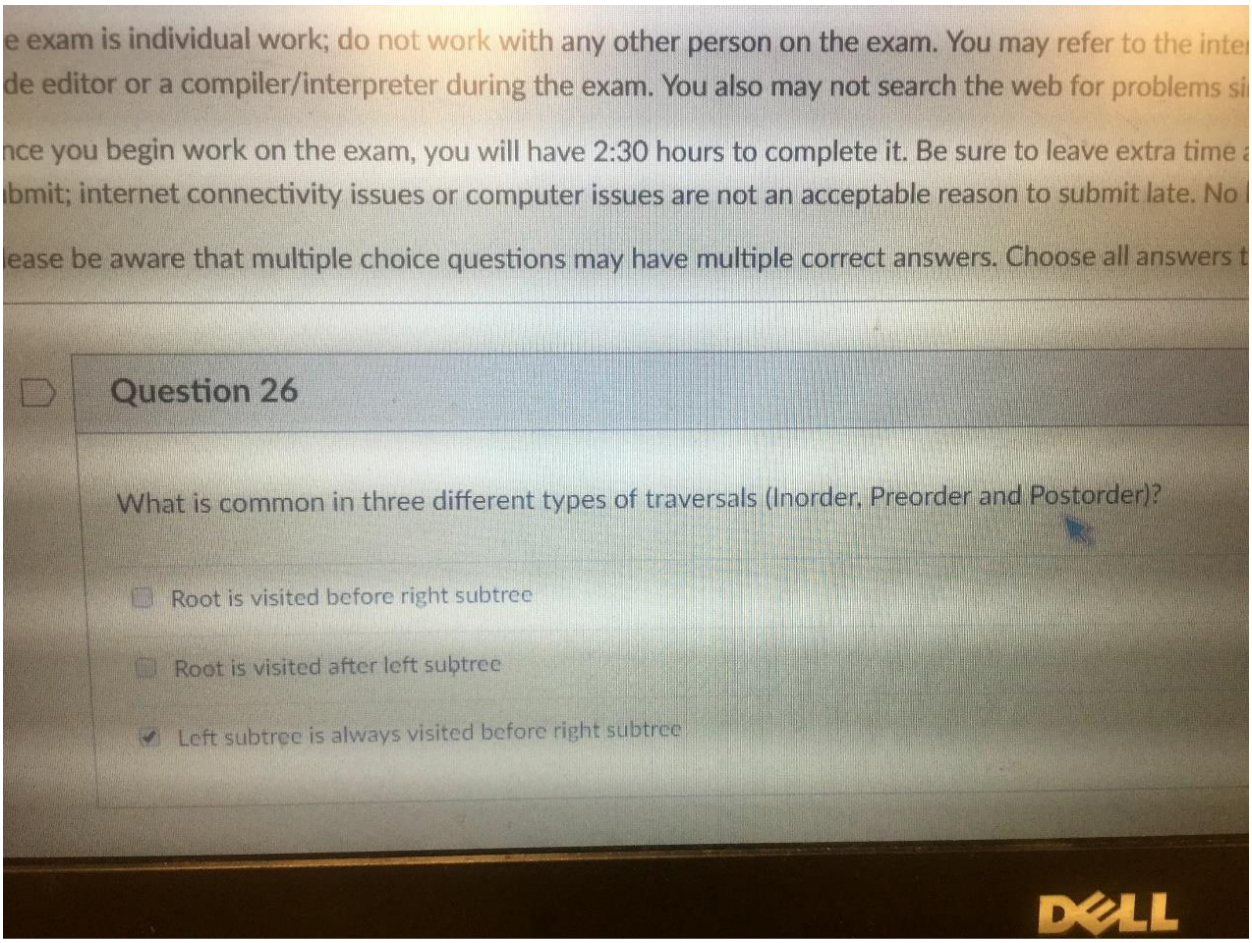
2^H – 1 correct

25.



Frequency store array 40.

26.



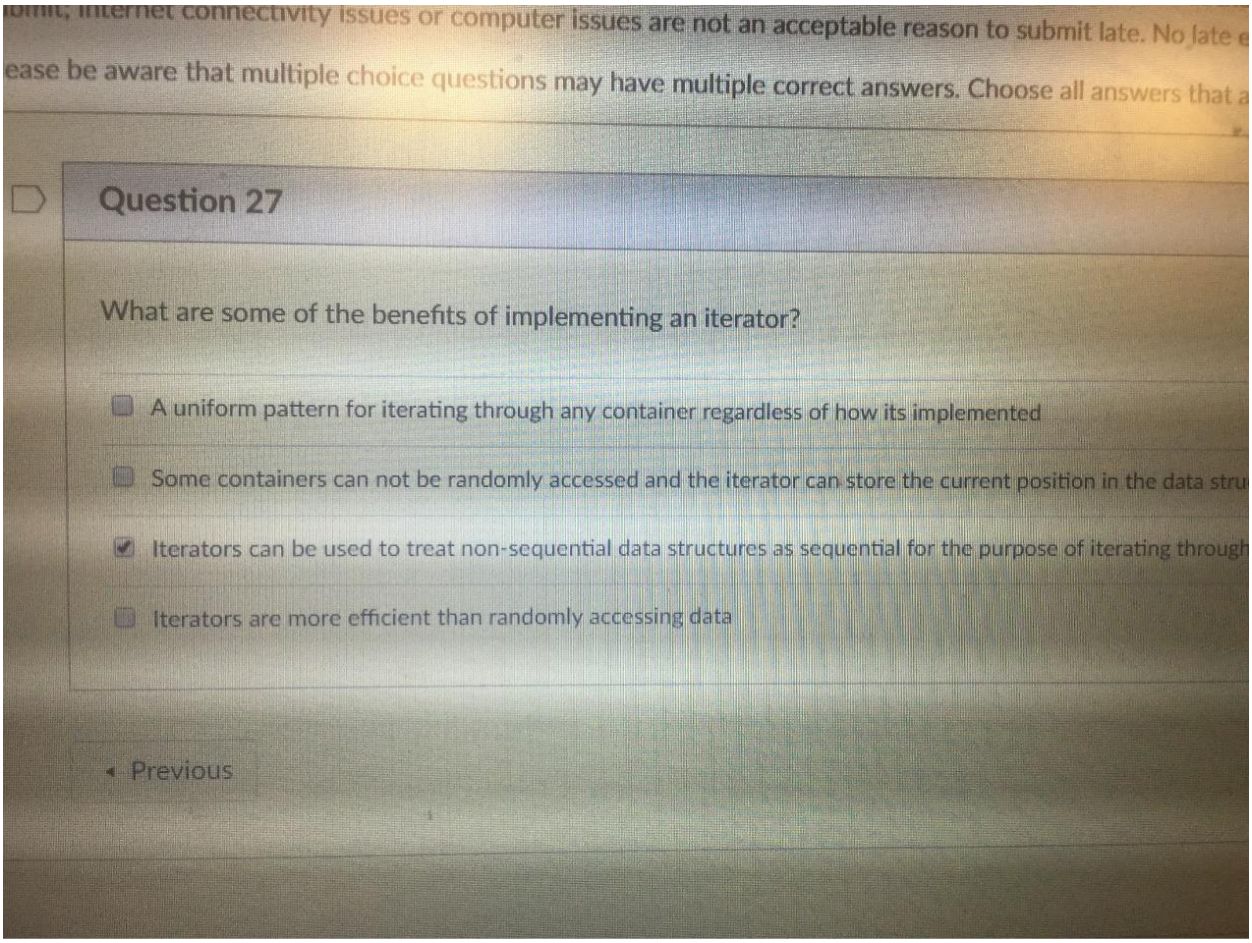
Correct

In-order (Left, Root, Right)

Pre-order (Root, Left, Right)

Post-order (Left, Right, Root)

27.


submit; internet connectivity issues or computer issues are not an acceptable reason to submit late. No late
Please be aware that multiple choice questions may have multiple correct answers. Choose all answers that
Question 27
What are some of the benefits of implementing an iterator?
A uniform pattern for iterating through any container regardless of how its implemented
Some containers can not be randomly accessed and the iterator can store the current position in the data stru
Iterators can be used to treat non-sequential data structures as sequential for the purpose of iterating through
Iterators are more efficient than randomly accessing data
Previous

Correct