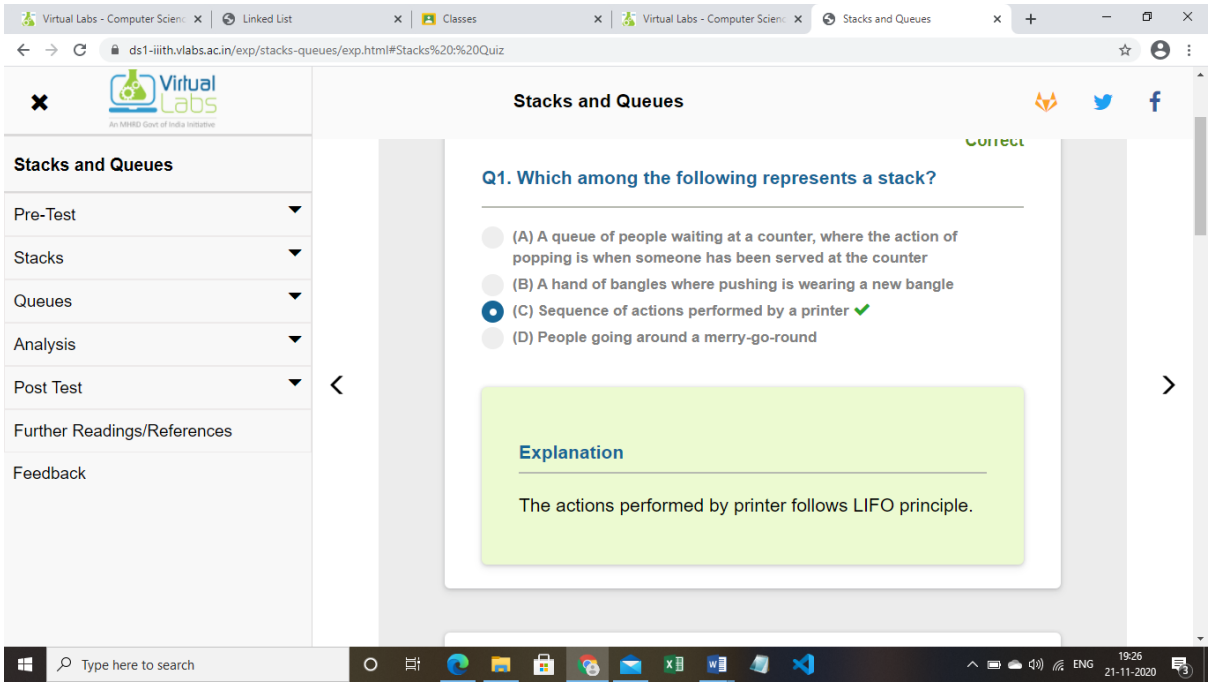
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Q1. Which among the following represents a stack?
(A) A queue of people waiting at a counter, where the action of popping is when someone has been served at the counter
(B) A hand of bangles where pushing is wearing a new bangle
(C) Sequence of actions performed by a printer
(D) People going around a merry-go-round
Explanation
The actions performed by printer follows LIFO principle.
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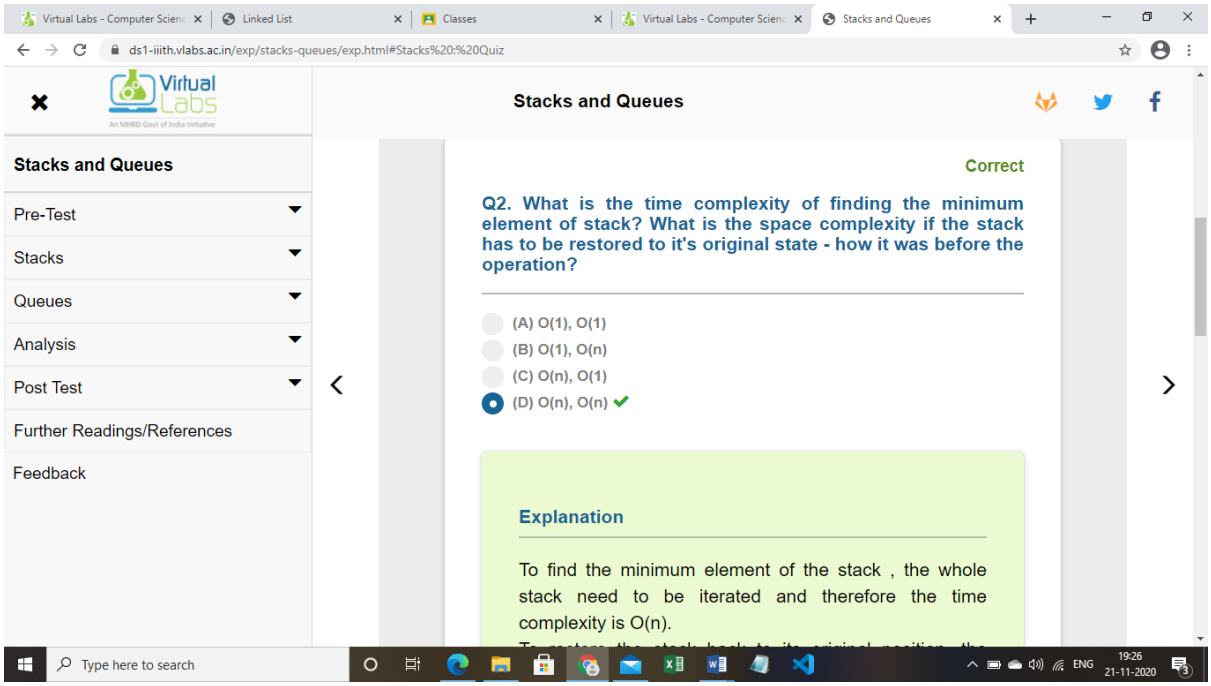
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Q2. What is the time complexity of finding the minimum element of stack? What is the space complexity if the stack has to be restored to it's original state - how it was before the operation?
(A) O(1), O(1)
(B) O(1), O(n)
(C) O(n), O(1)
(D) O(n), O(n)
Explanation
To find the minimum element of the stack , the whole stack need to be iterated and therefore the time complexity is O(n).
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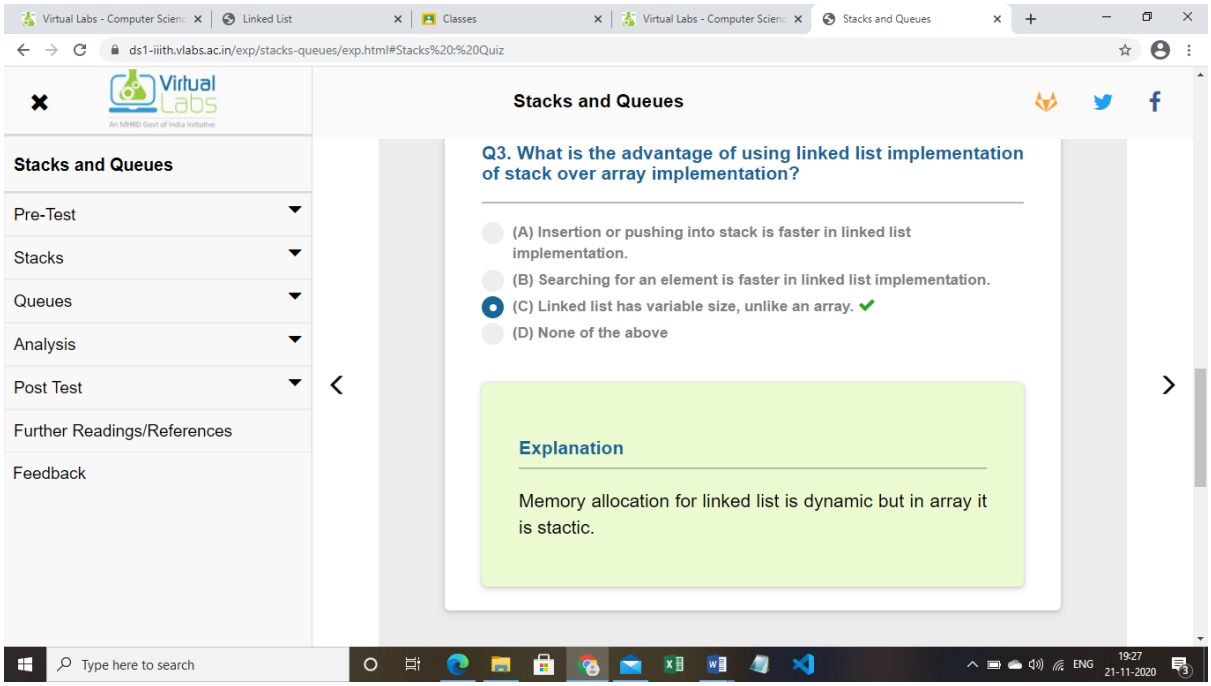
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Q3. What is the advantage of using linked list implementation of stack over array implementation?
(A) Insertion or pushing into stack is faster in linked list implementation.
(B) Searching for an element is faster in linked list implementation.
(C) Linked list has variable size, unlike an array.
(D) None of the above
Explanation
Memory allocation for linked list is dynamic but in array it is stactic.
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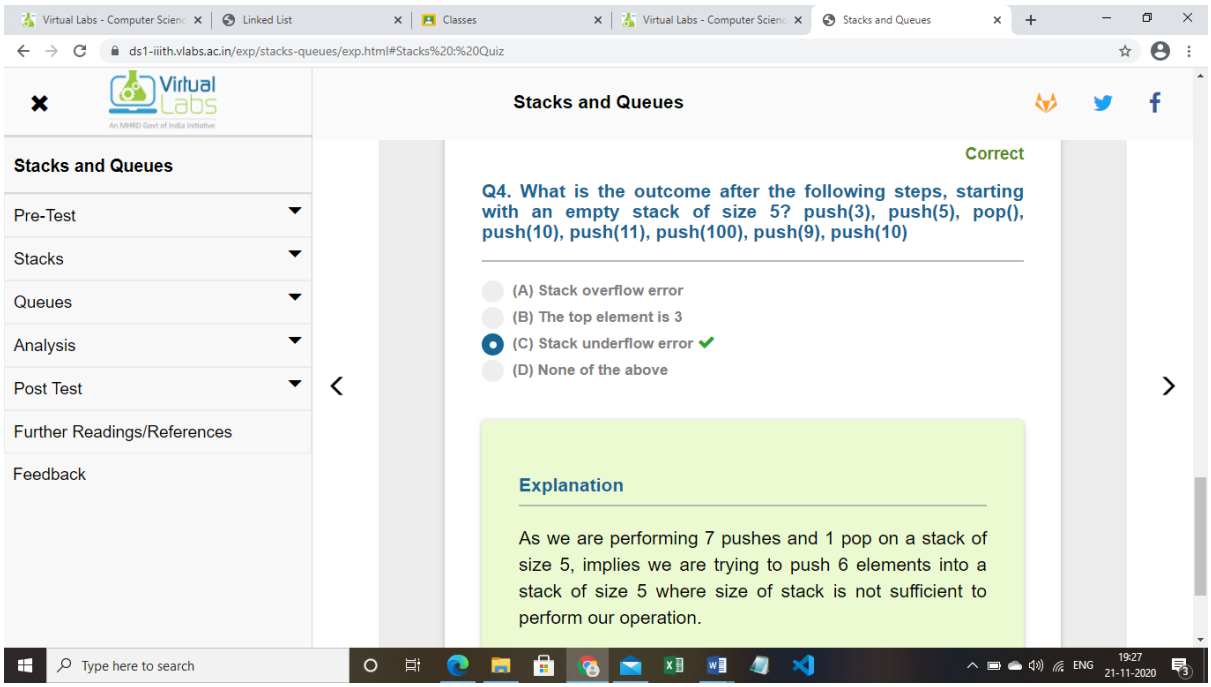
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Correct
Q4. What is the outcome after the following steps, starting with an empty stack of size 5? push(3), push(5), pop(), push(10), push(11), push(100), push(9), push(10)
(A) Stack overflow error
(B) The top element is 3
(C) Stack underflow error
(D) None of the above
Explanation
As we are performing 7 pushes and 1 pop on a stack of size 5, implies we are trying to push 6 elements into a stack of size 5 where size of stack is not sufficient to perform our operation.
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