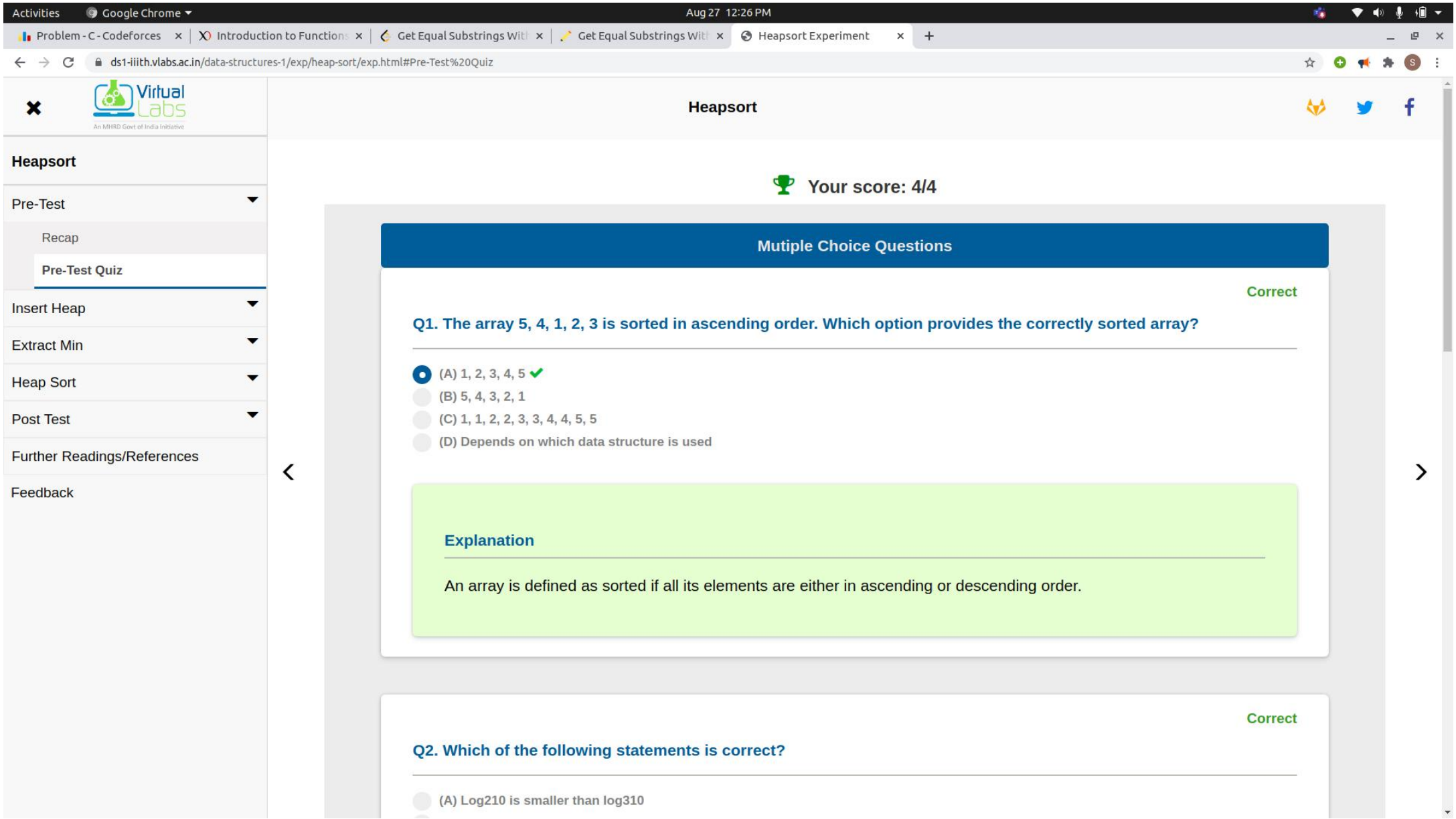
Activities
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Problem - C - Codeforces
Introduction to Function
Get Equal Substrings Wit
Get Equal Substrings Wit
Heapsort Experiment
ds1-iiith.vlabs.ac.in/data-structures-1/exp/heap-sort/exp.html#Pre-Test%20Quiz
Virtual Labs
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Heapsort
Heapsort
Pre-Test
Recap
Pre-Test Quiz
Insert Heap
Extract Min
Heap Sort
Post Test
Further Readings/References
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Your score: 4/4
Mutiple Choice Questions
Correct
Q1. The array 5, 4, 1, 2, 3 is sorted in ascending order. Which option provides the correctly sorted array?
(A) 1, 2, 3, 4, 5
(B) 5, 4, 3, 2, 1
(C) 1, 1, 2, 2, 3, 3, 4, 4, 5, 5
(D) Depends on which data structure is used
Explanation
An array is defined as sorted if all its elements are either in ascending or descending order.
Correct
Q2. Which of the following statements is correct?
(A) Log210 is smaller than log310

Your score: 2/2

Mutiple Choice Questions

Correct

Q1. Which of the following set of numbers form a balanced heap after insert heap step is performed?

- (A) 1, 4, 3, 9, 2, 8, 6, 7
- (B) 2, 3, 9, 1, 6, 7, 4 ✔
- (C) Both
- (D) Insufficient information

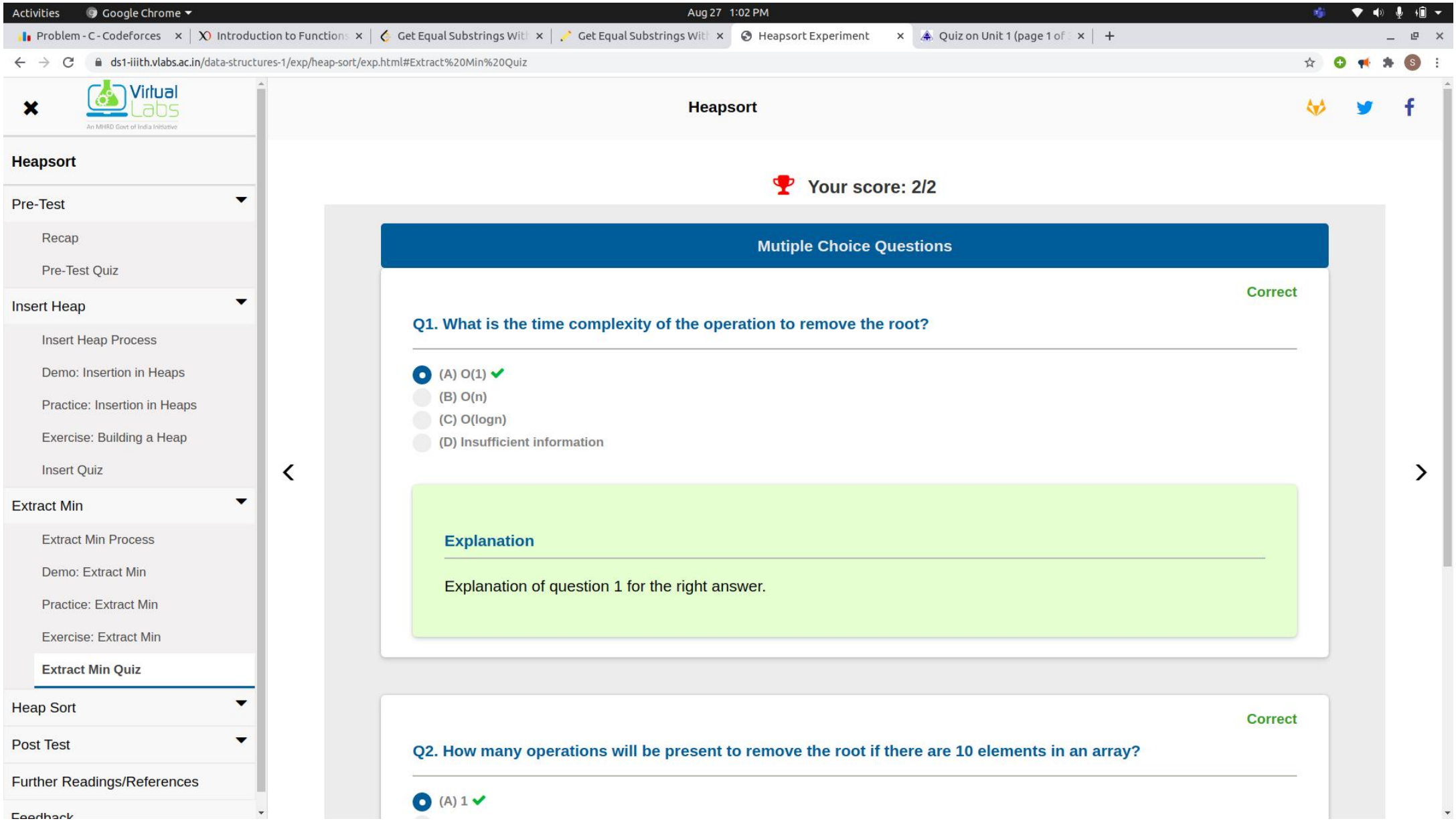
Explanation

A balanced heap usually has number of nodes of the form 2^n -1

Correct

Q2. What do u think is the conplexity of inserting a heap by this naive insert heap method? (Think about how and if it can be further improvised)

- (A) n ✔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Problem - C - Codeforces
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Get Equal Substrings Wit
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Heapsort Experiment
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ds1-iiith.vlabs.ac.in/data-structures-1/exp/heap-sort/exp.html#Extract%20Min%20Quiz
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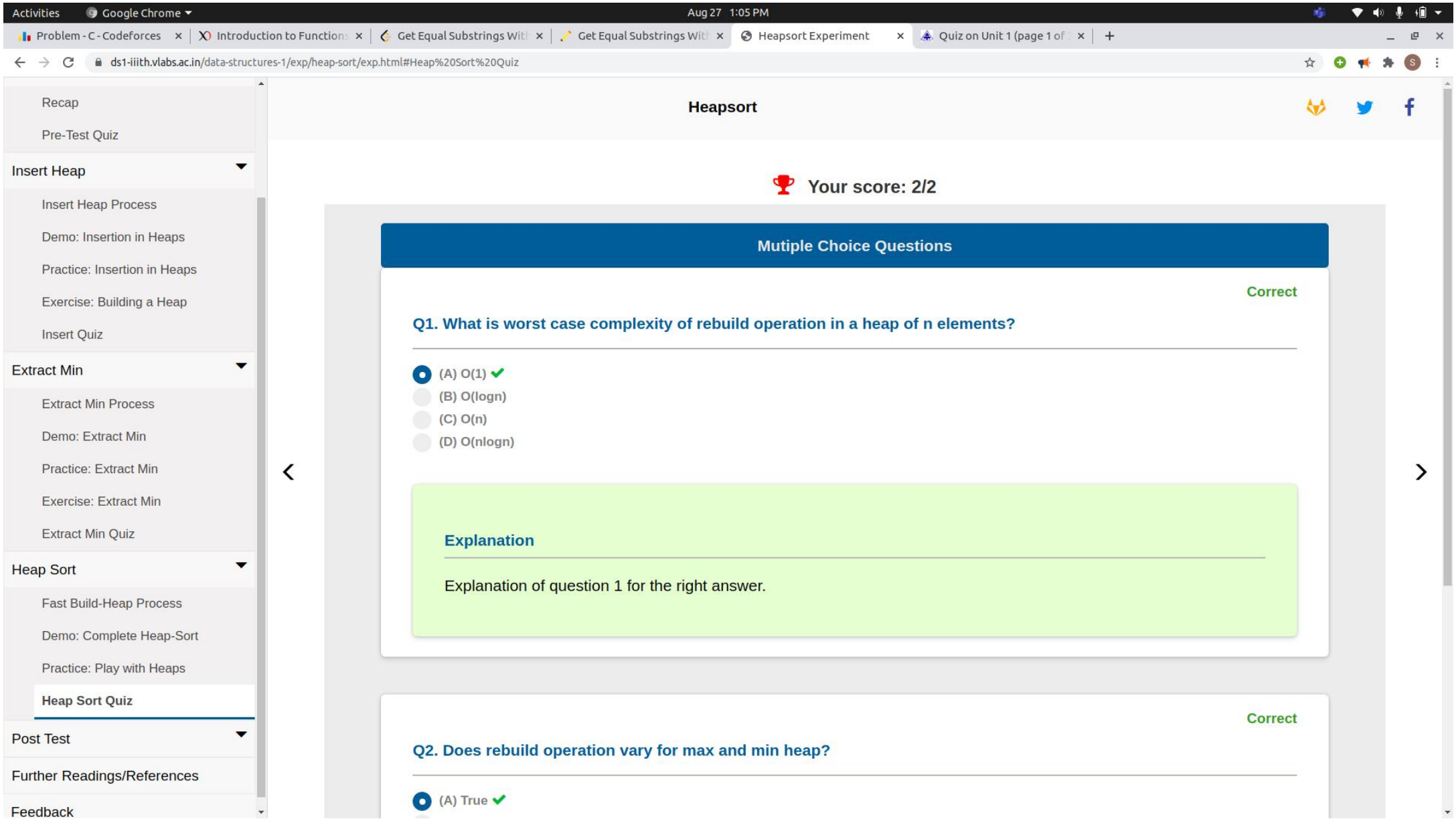
Pre-Test
Recap
Pre-Test Quiz
Insert Heap
Insert Heap Process
Demo: Insertion in Heaps
Practice: Insertion in Heaps
Exercise: Building a Heap
Insert Quiz
Extract Min
Extract Min Process
Demo: Extract Min
Practice: Extract Min
Exercise: Extract Min
Extract Min Quiz
Heap Sort
Post Test
Further Readings/References
Feedback
Your score: 2/2
Mutiple Choice Questions
Correct
Q1. What is the time complexity of the operation to remove the root?
(A) O(1)
(B) O(n)
(C) O(logn)
(D) Insufficient information
Explanation
Explanation of question 1 for the right answer.
Correct
Q2. How many operations will be present to remove the root if there are 10 elements in an array?
(A) 1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ds1-iiith.vlabs.ac.in/data-structures-1/exp/heap-sort/exp.html#Heap%20Sort%20Quiz
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Insert Quiz
Extract Min
Extract Min Process
Demo: Extract Min
Practice: Extract Min
Exercise: Extract Min
Extract Min Quiz
Heap Sort
Fast Build-Heap Process
Demo: Complete Heap-Sort
Practice: Play with Heaps
Heap Sort Quiz
Post Test
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Heapsort
Your score: 2/2
Mutiple Choice Questions
Correct
Q1. What is worst case complexity of rebuild operation in a heap of n elements?
(A) O(1)
(B) O(logn)
(C) O(n)
(D) O(nlogn)
Explanation
Explanation of question 1 for the right answer.
Correct
Q2. Does rebuild operation vary for max and min heap?
(A) True

Heapsort

Your score: 5/5

Mutiple Choice Questions

Correct

Q1. Which of the following sorting algorithms in its typical implementation gives best performance when applied on an array which is sorted or almost sorted (maximum 1 or two elements are misplaced)?

- (A) Quick Sort
- (B) Heap Sort
- (C) Merge Sort
- (D) Insertion Sort ✔

Explanation

Insertion sort takes linear time when input array is sorted or almost sorted (maximum 1 or 2 elements are misplaced). All other sorting algorithms mentioned above will take more than linear time in their typical implementation.

Correct

Q2. Consider a binary min heap containing n elements and every node having degree 2 (i.e. full binary min heap tree). What is the probability of finding the largest element at the last level?