

Name: Talha khan (2303-009-KHI-DEG)

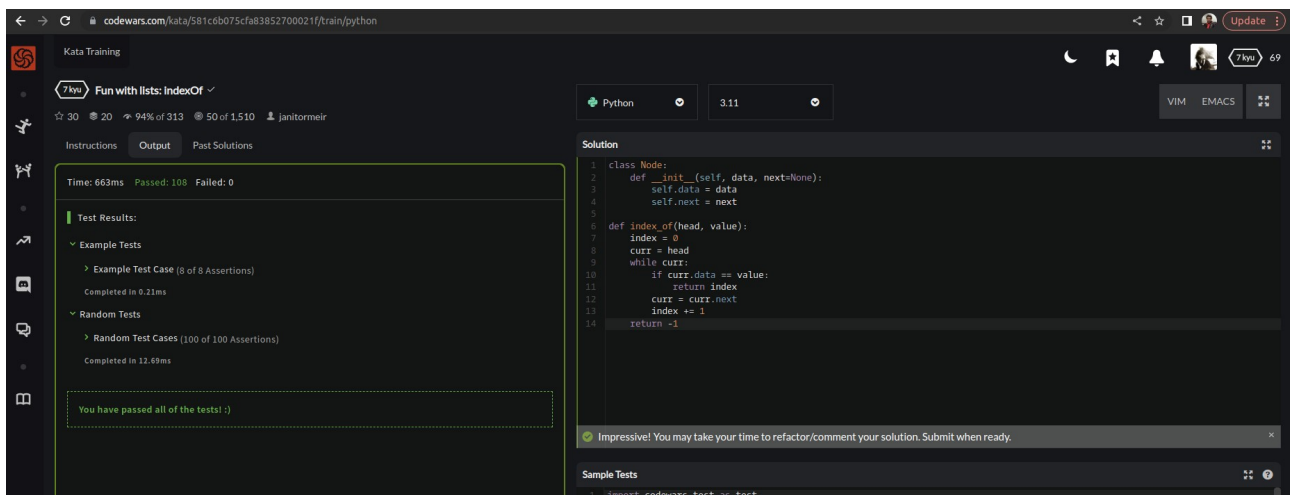
Fun with lists: indexOf

DESCRIPTION:

Implement the method **indexOf** (`indexOf` in PHP), which accepts a linked list (head) and a value, and returns the index (zero based) of the *first* occurrence of that value if exists, or -1 otherwise.

For example: Given the list: `1 -> 2 -> 3 -> 3`, and the value 3, **indexOf** / `indexOf` should return 2.

SOLUTION:



The screenshot shows a web browser window displaying a Codewars kata page. The title is "Fun with lists: indexOf" with a 7kyu rating. The page shows test results: "Time: 663ms Passed: 108 Failed: 0". The "Test Results" section indicates that example tests (8 of 8 assertions) and random tests (100 of 100 assertions) are all passed. A message at the bottom says "You have passed all of the tests! :)". On the right, the "Solution" tab is active, showing a Python code snippet. The code defines a `Node` class with an `__init__` method and an `indexOf` method. The `indexOf` method takes `head` and `value` as arguments, initializes `index` to 0 and `curr` to `head`, and then loops through the list until it finds the value or reaches the end, returning the index or -1. A "Sample Tests" section at the bottom shows a test case: `import codewars test as test`.

```
1 class Node:
2     def __init__(self, data, next=None):
3         self.data = data
4         self.next = next
5
6     def indexOf(head, value):
7         index = 0
8         curr = head
9         while curr:
10             if curr.data == value:
11                 return index
12             curr = curr.next
13             index += 1
14         return -1
```

EXPLANATION:

This implementation defines a `Node` class to represent nodes in the linked list. The `indexOf` method takes a `head` parameter, which is the first node in the linked list, and a `value` parameter, which is the value to search for in the list. The method initializes an `index` variable to zero and a `current` variable to the head of the list. It then loops through the list, checking each node's `data` value for a match with the `value` parameter. If a match is found, the method returns the current `index` value. If no match is found, the method moves to the next node in the list and increments the `index` value. If the end of the list is reached without finding a match, the method returns -1 to indicate that the value was not found in the list.