 Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Sem : 4	Name : VEDANT BHARAD	
Day : 114	Date : 8/2/2023	Enrollment No: 92100133023


CP Club 365 Days Challenge

Programming language – PYTHON

Problem Statement


[https://practice.geeksforgeeks.org/problems/heap-sort/1?page=1&status\[\]=unsolved&curated\[\]=1&sortBy=submissions](https://practice.geeksforgeeks.org/problems/heap-sort/1?page=1&status[]=unsolved&curated[]=1&sortBy=submissions)

Git :- https://github.com/Vedantbharad2603/CP_club_365_Days

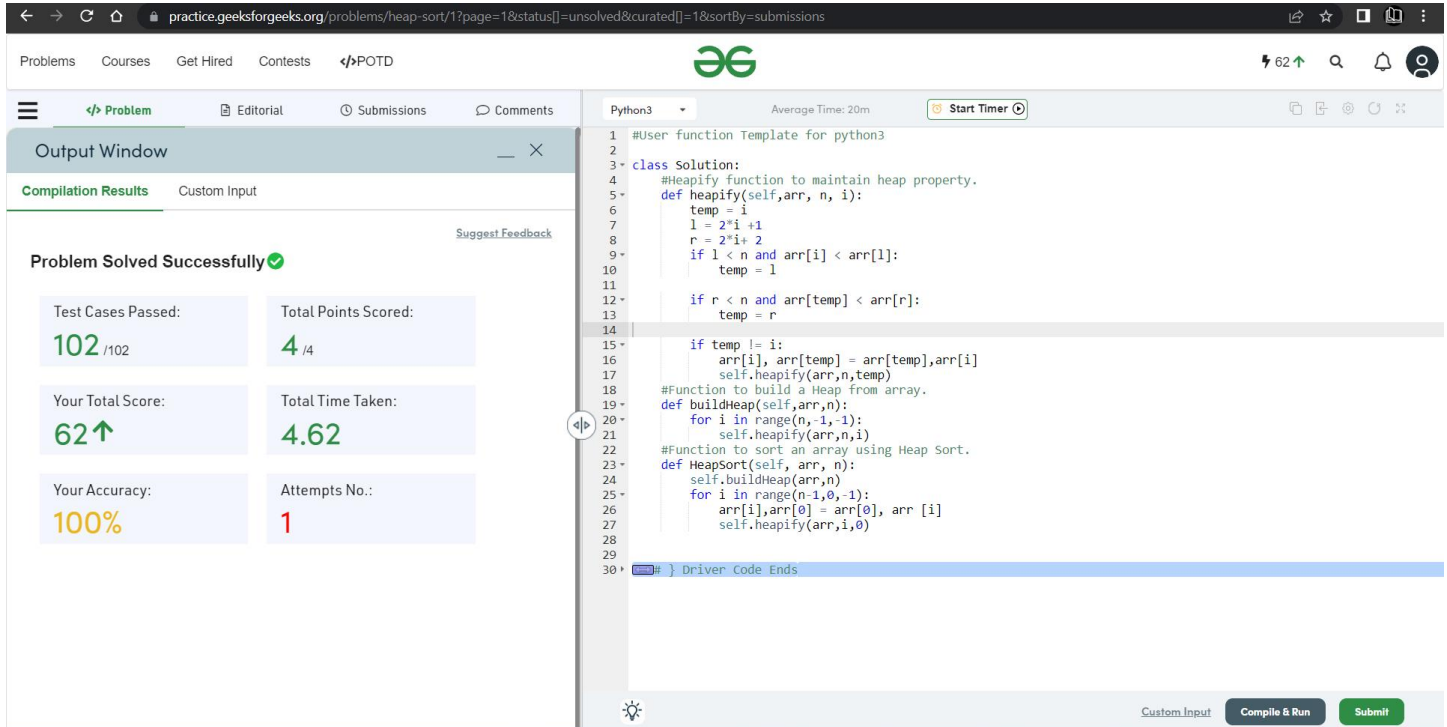
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Your Code:

```
# 0x114Day of 0x365Days challenge
# VEDANT BHARAD
# 8-2-2023
class Solution:
    def heapify(self,arr, n, i):
        temp = i
        l = 2*i +1
        r = 2*i+ 2
        if l < n and arr[i] < arr[l]:
            temp = l
        if r < n and arr[temp] < arr[r]:
            temp = r
        if temp != i:
            arr[i], arr[temp] = arr[temp],arr[i]
            self.heapify(arr,n,temp)
    def buildHeap(self,arr,n):
        for i in range(n,-1,-1):
            self.heapify(arr,n,i)
    def HeapSort(self, arr, n):
        self.buildHeap(arr,n)
        for i in range(n-1,0,-1):
            arr[i],arr[0] = arr[0], arr [i]
            self.heapify(arr,i,0)
#{
# Driver Code Starts
#Initial Template for Python 3
import atexit
import io
import sys
# Contributed by : Mohit Kumara
_INPUT_LINES = sys.stdin.read().splitlines()
input = iter(_INPUT_LINES).__next__
_OUTPUT_BUFFER = io.StringIO()
sys.stdout = _OUTPUT_BUFFER
@atexit.register
def write():
    sys.__stdout__.write(_OUTPUT_BUFFER.getvalue())
if __name__ == '__main__':
    test_cases = int(input())
    for cases in range(test_cases):
        n = int(input())
        arr = list(map(int, input().strip().split()))
        Solution().HeapSort(arr,n)
        print(*arr)
# } Driver Code Ends
```

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Output (Screen Shot):



The screenshot shows a web interface for a coding problem. On the left, the 'Output Window' displays 'Compilation Results' and 'Custom Input'. It states 'Problem Solved Successfully' with a green checkmark. Below this, a table shows performance metrics:

Test Cases Passed:	Total Points Scored:
102 / 102	4 / 4
Your Total Score:	Total Time Taken:
62 ↑	4.62
Your Accuracy:	Attempts No.:
100%	1

On the right, the code editor shows a Python3 solution for a Heap Sort problem. The code includes a class 'Solution' with methods 'heapify', 'buildHeap', and 'HeapSort'. The 'HeapSort' method sorts the array in-place. The code is well-commented and includes a driver code at the bottom.

Understanding about problem:

- In this task I need to sort given array using Heap Sort.

Note: If you can't understand the problem, feel free to contact us and we'll help you. Please don't copy and paste from anywhere.

ALL THE BEST
Team CP Club