

Programming Assignment 1

Hackerrank username: w_wangondou

Summary of your results:

The screenshot displays the HackerRank interface for the 'Closest Numbers' challenge. The user's profile 'w_wangondou' is visible in the top right corner. The challenge page shows a progress bar indicating '20.25 more points to get your first star!' and a current rank of 2491813 with 9.75/30 points. The 'Submissions' tab is active, showing a table of three submissions, all of which were terminated. The table has columns for Result, Score, Language, and Time. Below the table, there is a pagination control showing page 1. On the right side, there is a 'NEED HELP?' section with links to 'View discussions', 'View editorial', and 'View top submissions'.

RESULT	SCORE	LANGUAGE	TIME
✗ Terminated due to...	8.75	Python 3	3 minutes ago
✗ Terminated due to...	8.75	Python 3	2 hours ago
✗ Terminated due to...	8.75	Python 3	2 hours ago

Code:

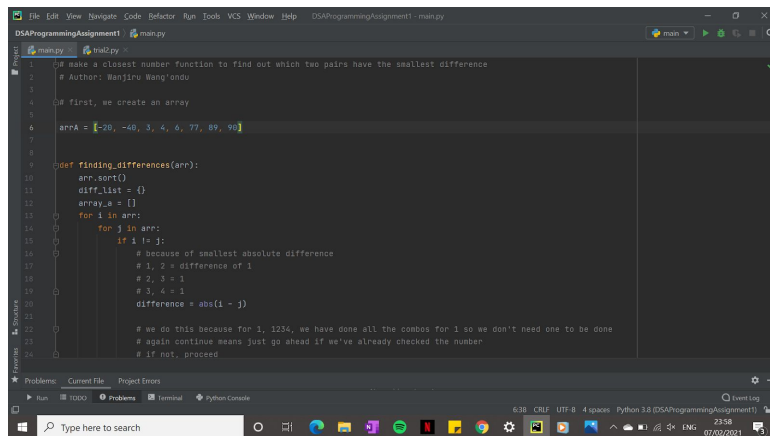
```
def closestNumbers(arr):
    arr.sort()
    diff_list = {}
    array_a = []
    for i in arr:
        for j in arr:
            if i != j:
                # because of smallest absolute difference
                # 1, 2 = difference of 1
                # 2, 3 = 1
                # 3, 4 = 1
                difference = abs(i - j)

                # we do this because for 1, 1234, we have done all
the combos for 1 so we don't need one to be done
                # again continue means just go ahead if we've already
checked the number
                # if not, proceed
                if j in array_a:
                    continue
                array_a.append(i)
                if difference in diff_list:
                    diff_list[difference].append(i)
                    diff_list[difference].append(j)

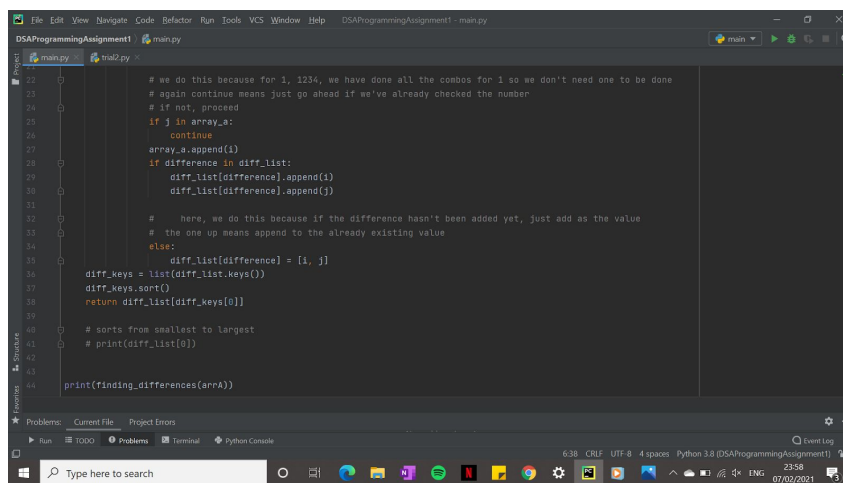
                # here, we do this because if the difference
hasn't been added yet, just add as the value
                # the one up means append to the already existing
value

            else:
                diff_list[difference] = [i, j]
    diff_keys = list(diff_list.keys())
    diff_keys.sort()
    return diff_list[diff_keys[0]]
```

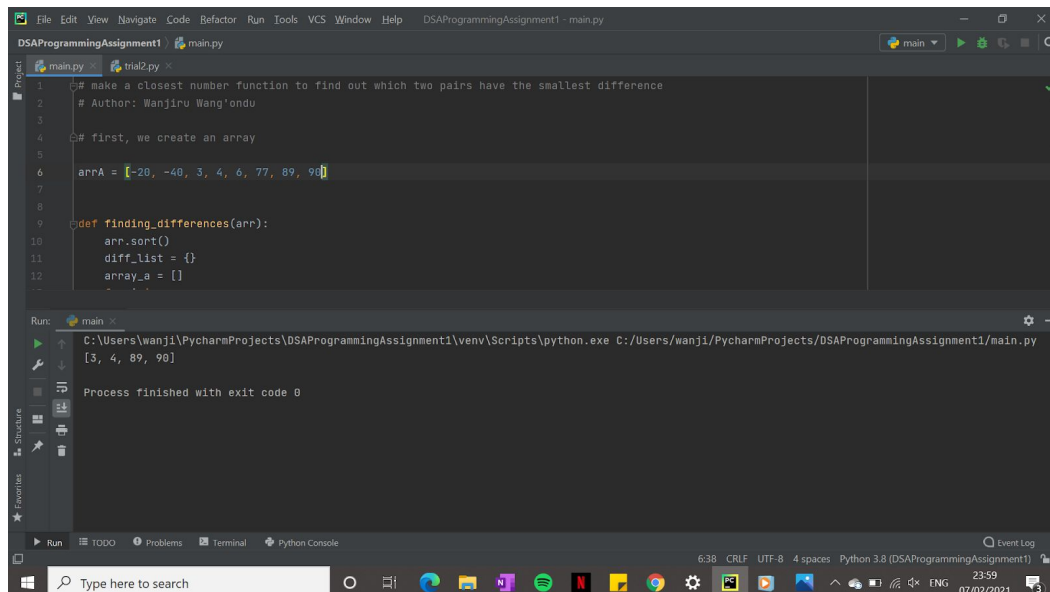
IDE Test results:



```
1 # make a closest number function to find out which two pairs have the smallest difference
2 # Author: Wanjin Wang'oudu
3
4 # first, we create an array
5
6 arrA = [-20, -40, 3, 4, 6, 77, 89, 90]
7
8
9 def finding_differences(arr):
10     arr.sort()
11     diff_list = {}
12     array_a = []
13     for i in arr:
14         for j in arr:
15             if i != j:
16                 # because of smallest absolute difference
17                 # 1, 2 = difference of 1
18                 # 2, 3 = 1
19                 # 3, 4 = 1
20                 difference = abs(i - j)
21
22                 # we do this because for 1, 1234, we have done all the combos for 1 so we don't need one to be done
23                 # again continue means just go ahead if we've already checked the number
24                 # if not, proceed
```



```
25
26
27     # we do this because for 1, 1234, we have done all the combos for 1 so we don't need one to be done
28     # again continue means just go ahead if we've already checked the number
29     # if not, proceed
30     if j in array_a:
31         continue
32     array_a.append(i)
33     if difference in diff_list:
34         diff_list[difference].append(i)
35         diff_list[difference].append(j)
36
37     # here, we do this because if the difference hasn't been added yet, just add as the value
38     # the one up means append to the already existing value
39     else:
40         diff_list[difference] = [i, j]
41     diff_keys = list(diff_list.keys())
42     diff_keys.sort()
43     return diff_list[diff_keys[0]]
44
45 # sorts from smallest to largest
46 # print(diff_list[0])
47
48 print(finding_differences(arrA))
```



```
1 # make a closest number function to find out which two pairs have the smallest difference
2 # Author: Wanjin Wang'oudu
3
4 # first, we create an array
5
6 arrA = [-20, -40, 3, 4, 6, 77, 89, 90]
7
8
9 def finding_differences(arr):
10     arr.sort()
11     diff_list = {}
12     array_a = []
13
14     # we do this because for 1, 1234, we have done all the combos for 1 so we don't need one to be done
15     # again continue means just go ahead if we've already checked the number
16     # if not, proceed
17     if j in array_a:
18         continue
19     array_a.append(i)
20     if difference in diff_list:
21         diff_list[difference].append(i)
22         diff_list[difference].append(j)
23
24     # here, we do this because if the difference hasn't been added yet, just add as the value
25     # the one up means append to the already existing value
26     else:
27         diff_list[difference] = [i, j]
28     diff_keys = list(diff_list.keys())
29     diff_keys.sort()
30     return diff_list[diff_keys[0]]
31
32 # sorts from smallest to largest
33 # print(diff_list[0])
34
35 print(finding_differences(arrA))
```

Run: main

C:\Users\wanji\PycharmProjects\DSAProgrammingAssignment1\venv\Scripts\python.exe C:/Users/wanji/PycharmProjects/DSAProgrammingAssignment1/main.py

[3, 4, 89, 90]

Process finished with exit code 0