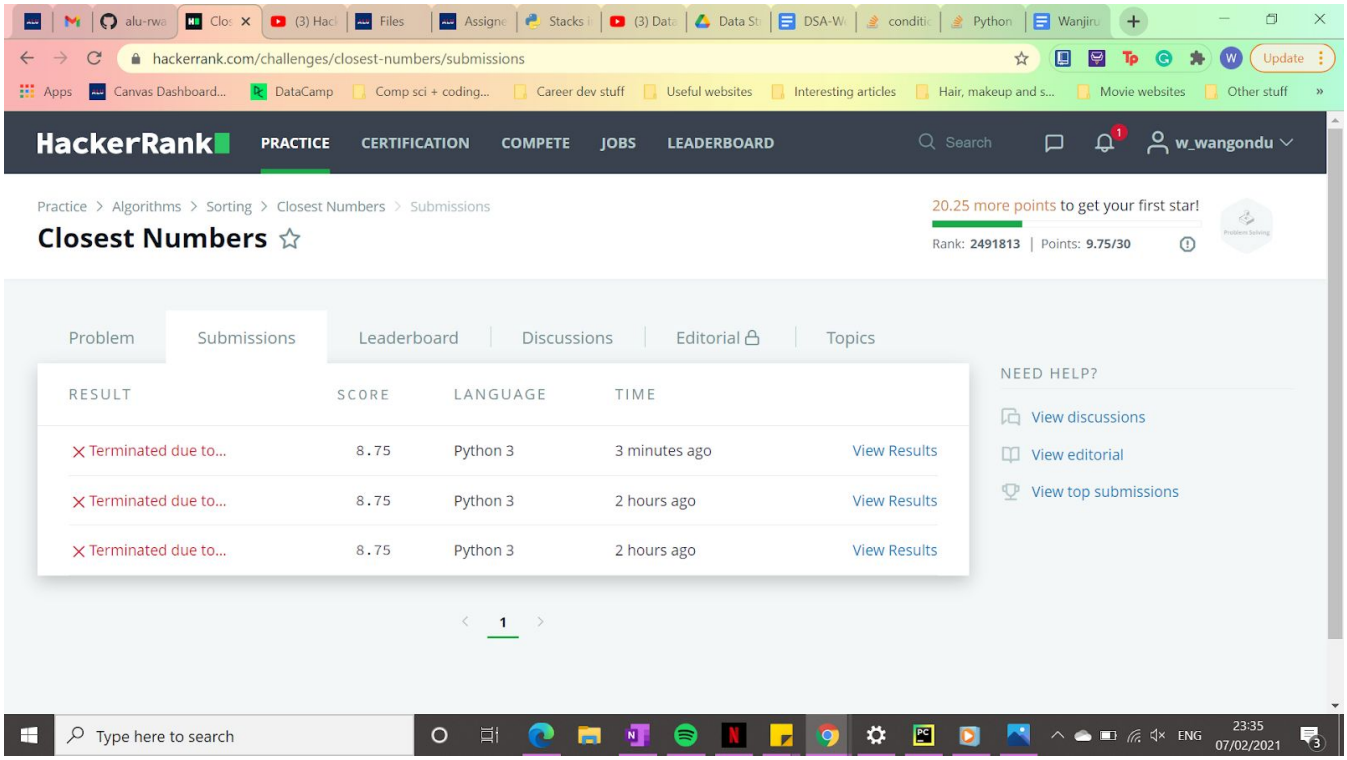
Programming Assignment 1

Hackerrank username: w_wangondu

Summary of your results:



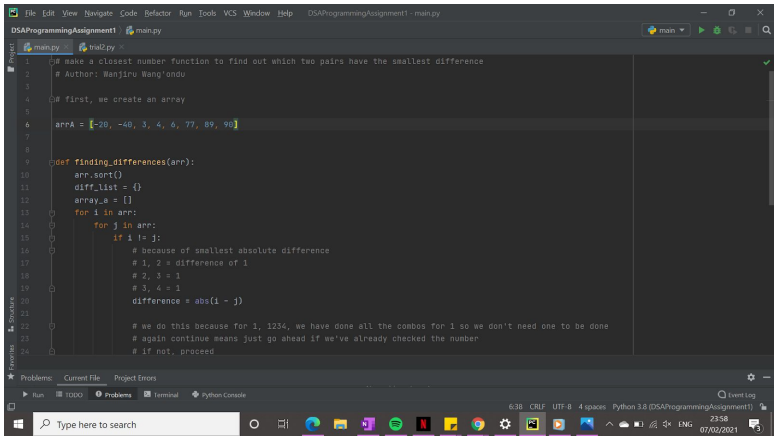
Code:

```
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:



```
# make a closest number function to find out which two pairs have the smallest difference
# Author: Wanjiru Wang'ondu

# first, we create an array

arrA = [-20, -40, 3, 4, 6, 77, 89, 90]


def finding_differences(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
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                # if not, proceed
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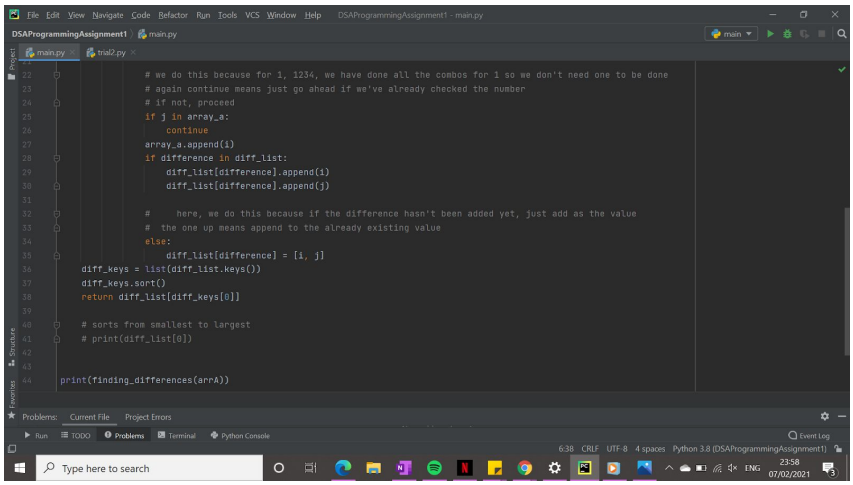

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                # we do this because for 1, 1234, we have done all the combos for 1 so we don't need one to be done
                # again continue means just go ahead if we've already checked the number
                # if not, proceed
        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

    # sorts from smallest to largest
    # print(diff_list[0])


print(finding_differences(arrA))
```

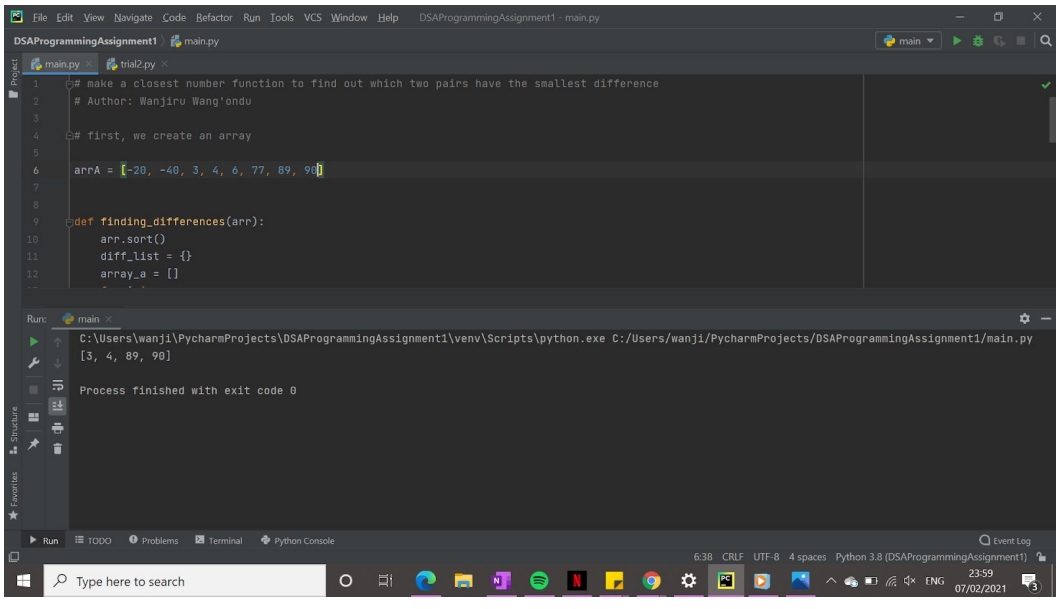

```
# make a closest number function to find out which two pairs have the smallest difference
# Author: Wanjiru Wang'ondu

# first, we create an array

arrA = [-20, -40, 3, 4, 6, 77, 89, 90]


def finding_differences(arr):
    arr.sort()
    diff_list = {}
    array_a = []
```

```
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
```