Curso: Ciencia de Datos en Python
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Tarea preparatoria para Parcial

Usuario de hackerrank: https://www.hackerrank.com/dany_diaz_22

Ejercicios:

1. https://www.hackerrank.com/challenges/py-if-else/problem

<u>Solución</u>

```python
#!/bin/python

import math
import os
import random
import re
import sys


if __name__ == '__main__':
    n = int(raw_input().strip())

    if n % 2 == 1:
        print('Weird')
    else:
        if 2 <= n <= 5:
            print('Not Weird')
        elif 6 <= n <= 20:
            print('Weird')
        elif n > 20:
            print('Not Weird')
```

2. https://www.hackerrank.com/challenges/python-arithmetic-operators/problem

https://www.hackerrank.com/challenges/python-arithmetic-operators/problem

Solución:

```python
if __name__ == '__main__':
    a = int(input())
    b = int(input())

    print(a+b)
    print(a-b)
    print(a*b)
```

3. https://www.hackerrank.com/challenges/python-division/problem

Solución:

```python
if __name__ == '__main__':
    a = int(input())
    b = int(input())

    print(a//b)
    print(a/b)
```

4.

Solución:
```python
if __name__ == '__main__':
    n = int(input())

    i = 0
    while i < n:
        print(i**2)
        i += 1
```

5.

Solución:
```python
def is_leap(year):
    leap = False

    if year % 400 == 0:
        leap = True
    elif year % 4 == 0 and year % 100 != 0:
        leap = True

    return leap
```

6. https://www.hackerrank.com/challenges/find-second-maximum-number-in-a-list/problem

Solución:

```python
if __name__ == '__main__':
    n = int(input())
    arr = map(int, input().split())

    maxScore = -101
    runnerUp = -101

    for score in arr:
        if score > maxScore:
            runnerUp = maxScore
            maxScore = score
        elif score > runnerUp and score != maxScore:
            runnerUp = score
    print(runnerUp)
```

7. https://www.hackerrank.com/challenges/finding-the-percentage/problem

Solución:

```python
if __name__ == '__main__':
    n = int(input())
    student_marks = {}
    for _ in range(n):
        name, *line = input().split()
        scores = list(map(float, line))
        student_marks[name] = scores
    query_name = input()

    total = 0.0
    for mark in student_marks[query_name]:
        total += mark
    total /= 3

    print('{:0.2f}'.format(total))
```

8.

Solución:

```python
if __name__ == '__main__':
    N = int(input())

    commands = []
    mainList = []
    for _ in range(N):
        commands.append(input())

    for comm in commands:
        commList = comm.split()
        justCommand = commList[0].lower()

        if justCommand == 'insert':
            mainList.insert(int(commList[1]),int(commList[2]))
        elif justCommand == 'print':
            print(mainList)
        elif justCommand == 'remove':
            mainList.remove(int(commList[1]))
        elif justCommand == 'append':
            mainList.append(int(commList[1]))
        elif justCommand == 'sort':
            mainList.sort()
        elif justCommand == 'pop':
            mainList.pop()
        elif justCommand == 'reverse':
            mainList.reverse()
```

9. https://www.hackerrank.com/challenges/python-tuples/problem

Practice > Python > Basic Data Types > Tuples > Submissions

Tuples ☆

20 more points to get your next star!

Rank: 482700 | Points: 90/110

| Problem | Submissions | Leaderboard | Discussions | Editorial 🔒 | Tutorial |

NEED HELP?

RESULT	SCORE	LANGUAGE	TIME	
⊘ Accepted	10.0	Python 3	a few seconds ago	View Results

☐ View tutorial

⟲ View discussions

▭ View editorial

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‹ **1** ›

Solución:

```python
if __name__ == '__main__':
    n = int(input())
    integer_list = map(int, input().split())
    print(hash(tuple(integer_list)))
```

10. https://www.hackerrank.com/challenges/defaultdict-tutorial/problem

Practice > Python > Collections > DefaultDict Tutorial > Submissions

DefaultDict Tutorial ☆

110 more points to get your next star!

Rank: 401038 | Points: 110/220

| Problem | Submissions | Leaderboard | Discussions | Editorial 🔒 |

NEED HELP?

RESULT	SCORE	LANGUAGE	TIME	
⊘ Accepted	20.0	Python 3	a few seconds ago	View Results
⊘ Accepted	20.0	Python 3	a few seconds ago	View Results
⊘ Accepted	20.0	Python 3	2 minutes ago	View Results

⟲ View discussions

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Solución:

```python
# Enter your code here. Read input from STDIN. Print output to STDOUT
if __name__ == '__main__':
    n,m = map(int,input().split())
    def defaultValue():
        return ['-1']

    from collections import defaultdict
    d = defaultdict(defaultValue)

    for i in range(n):
        word = input()
        if d[word][0] == '-1':
            d[word][0] = str(i+1)
        else:
            d[word].append(str(i+1))

    for i in range(m):
        word = input()
        print(' '.join(d[word]))
```

11. https://www.hackerrank.com/challenges/collections-counter/problem

Solución:

```python
# Enter your code here. Read input from STDIN. Print output to STDOUT
if __name__ == '__main__':
    n = int(input())
    shoeSizes = map(int, input().split())
    clientNumbers = int(input())

    from collections import Counter
    sizeCounter = Counter(shoeSizes)
    total = 0

    for _ in range(clientNumbers):
        size, price = map(int, input().split())
        if size in sizeCounter.keys() and sizeCounter[size] > 0:
            sizeCounter[size] -= 1
            total += price

    print(total)
```

Practice > Interview Preparation Kit > Arrays > Minimum Swaps 2 > Submissions

Minimum Swaps 2 ☆

Problem	Submissions	Leaderboard	Discussions	Editorial 🔒

RESULT	SCORE	LANGUAGE	TIME	
ⓒ Accepted	40.0	Python 3	a few seconds ago	View Results
✕ Terminated due to...	16.0	Python 3	22 minutes ago	View Results
✕ Terminated due to...	16.0	Python 3	44 minutes ago	View Results

NEED HELP?

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Solución:

```python
#!/bin/python3

import math
import os
import random
import re
import sys


# Complete the minimumSwaps function below.
def minimumSwaps(arr):
    tempArray = arr.copy()
    arrSorted = arr.copy()
    arrSorted.sort()
    arrIndexes = [len(tempArray)] * (arrSorted[-1] + 1)
    for i, val in enumerate(tempArray, start=0):
        arrIndexes[val] = i

    swapsNeeded = 0
    for currentPos in range(len(tempArray)-1):
        minPos = arrIndexes[arrSorted[currentPos]]
        if tempArray[minPos] < tempArray[currentPos]:
            arrIndexes[tempArray[minPos]], arrIndexes[tempArray[currentPos]] = arrIndexes[tempArray[currentPos]], arrIndexes[tempArray[minPos]]
            tempArray[minPos], tempArray[currentPos] = tempArray[currentPos], tempArray[minPos]
            swapsNeeded += 1

    return swapsNeeded


if __name__ == '__main__':
    fptr = open(os.environ['OUTPUT_PATH'], 'w')

    n = int(input())
    arr = list(map(int, input().rstrip().split()))
    res = minimumSwaps(arr)
    fptr.write(str(res) + '\n')
    fptr.close()
```
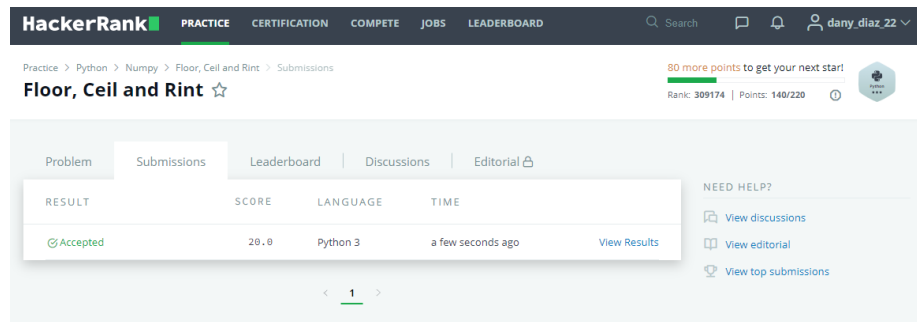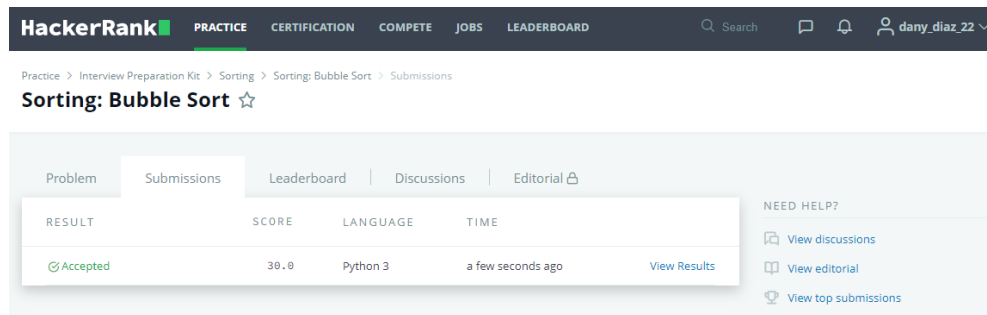
13. https://www.hackerrank.com/challenges/floor-ceil-and-rint/problem

Solución:

```python
import numpy
numpy.set_printoptions(legacy='1.13')
float_map = map(float, input().split())
float_array = numpy.array(list(float_map))
print(numpy.floor(float_array))
print(numpy.ceil(float_array))
print(numpy.rint(float_array))
```

14. https://www.hackerrank.com/challenges/ctci-bubble-sort/problem?h_l=interview&playlist_slugs%5B%5D=interview-preparation-kit&playlist_slugs%5B%5D=sorting

Solución:

```python
#!/bin/python3
import math
import os
import random
import re
import sys

# Complete the countSwaps function below.
def countSwaps(a):
    result = 0
    for i in range(len(a)):
        for j in range(len(a) -1):
            if a[j] > a[j+1]:
                a[j], a[j+1] = a[j+1], a[j]
                result += 1

    print('Array is sorted in', result, 'swaps.')
    print('First Element:', a[0])
    print('Last Element:', a[-1])

if __name__ == '__main__':
    n = int(input())
    a = list(map(int, input().rstrip().split()))
    countSwaps(a)
```

15. https://www.hackerrank.com/challenges/np-arrays/problem

Solución:

```python
def arrays(arr):
    # complete this function
    # use numpy.array
    arr.reverse()
    return numpy.array(arr, float)
```

16. https://www.hackerrank.com/challenges/np-zeros-and-ones/problem

Solución:

```python
import numpy

numberList = list(map(int, input().split()))

print(numpy.zeros(tuple(numberList), dtype = numpy.int))
print(numpy.ones(tuple(numberList), dtype = numpy.int))
```