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Ciencia de Datos en Python
Sección U
Tarea 4



Ejercicios Hackerrank

Usuario: aleva90

Ejercicio 1:

LINK:

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

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/py-if-else/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 10.00 Status: **Accepted**

People who solved **Python If-Else** attempted this next:

Arithmetic Operators

Addition, subtraction and multiplication.

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
1 #!/bin/python3
2
3 import math
4 import os
5 import random
6 import re
7 import sys
8
9
10
11 if __name__ == '__main__':
12     n = int(input().strip())
13     if n%2:
14         print('Weird')
15     else:
16         if (n > 2 and n < 5) or (n > 20 and n < 100):
17             print('Weird')
```

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Ejercicio 2:

LINK:

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

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/python-arithmetic-operators/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 10.00 Status: **Accepted**

People who solved **Arithmetic Operators** attempted this next:

Python: Division

Division using `__future__` module.

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
1 if __name__ == '__main__':  
2     a = int(input())  
3     b = int(input())  
4     print(a+b)  
5     print(a-b)  
6     print(a*b)  
7
```

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Ejercicio 3:

LINK:

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

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/python-division/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 10.00 Status: **Accepted**

People who solved **Python: Division** attempted this next:

Loops

Practice using "for" and "while" loops in Python.

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
1 if __name__ == '__main__':  
2     a = int(input())  
3     b = int(input())  
4     print(a//b)  
5     print(a/b)  
6
```

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Ejercicio 4:

LINK:

<https://www.hackerrank.com/challenges/python-loops/problem>

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/python-loops/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 10.00 Status: **Accepted**

People who solved **Loops** attempted this next:

Write a function

Write a function to check if the given year is leap or not

Solve Challenge

Submitted Code

Language: Python 3

[Open in editor](#)

```
1 if __name__ == '__main__':  
2     n = int(input())  
3     for i in range(n):  
4         print(i**2)  
5
```

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Ejercicio 5:

LINK:

<https://www.hackerrank.com/challenges/write-a-function/problem>

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/write-a-function/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 10.00 Status: **Accepted**

People who solved **Write a function** attempted this next:

Print Function

Learn to use print as a function

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
1 def is_leap(year):  
2     leap = False  
3  
4     if not year%4:  
5         if not year%100:  
6             if not year%400:  
7                 leap = True  
8             else:  
9                 leap = False  
10        else:  
11            leap = True  
12    else:  
13        leap = False  
14  
15    return leap  
16
```

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Ejercicio 6:

LINK:

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

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/find-second-maximum-number-in-a-list/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 10.00 Status: **Accepted**

People who solved **Find the Runner-Up Score!** attempted this next:

Nested Lists

In a classroom of N students, find the student with the second lowest grade.

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
1 if __name__ == '__main__':  
2     n = int(input())  
3     arr = map(int, input().split())  
4     print(sorted(list(set(arr)))[-2])  
5
```

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Ejercicio 7:

LINK:

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

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/finding-the-percentage/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 10.00 Status: **Accepted**

People who solved **Finding the percentage** attempted this next:

Validating and Parsing Email Addresses

Print valid email addresses according to the constraints.

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
1 if __name__ == '__main__':  
2     n = int(input())  
3     student_marks = {}  
4     for _ in range(n):  
5         name, *line = input().split()  
6         scores = list(map(float, line))  
7         student_marks[name] = scores  
8     query_name = input()  
9  
10    print(format(sum(student_marks[query_name])/len(student_marks[query_name]),  
11               '.2f'))
```

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Ejercicio 8:

LINK:

<https://www.hackerrank.com/challenges/python-lists/problem>

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/python-lists/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 10.00 Status: **Accepted**

People who solved **Lists** attempted this next:

Tuples

Learn about tuples and compute hash(T).

[Solve Challenge](#)

Submitted Code

```
Language: Python 3 Open in editor

1 if __name__ == '__main__':
2     l = []
3     N = int(input())
4     for i in range(N):
5         instr, *datos = input().split()
6         if instr == 'insert':
7             l.insert(int(datos[0]), int(datos[1]))
8         elif instr == 'print':
9             print(l)
10        elif instr == 'remove':
11            l.remove(int(datos[0]))
12        elif instr == 'append':
13            l.append(int(datos[0]))
14        elif instr == 'sort':
15            l.sort()
16        elif instr == 'reverse':
17            l.reverse()
```


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Ejercicio 9:

LINK:

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

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/python-tuples/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 10.00 Status: **Accepted**

People who solved **Tuples** attempted this next:

List Comprehensions

You will learn about list comprehensions.

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
1 if __name__ == '__main__':  
2     n = int(input())  
3     integer_list = map(int, input().split())  
4     print(hash(tuple(integer_list)))  
5
```

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Ejercicio 10:

LINK:

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

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/defaultdict-tutorial/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 20.00 Status: **Accepted**

People who solved **DefaultDict Tutorial** attempted this next:

Collections.namedtuple()

You need to turn tuples into convenient containers using collections.namedtuple().

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
1 from collections import defaultdict
2
3 if __name__ == '__main__':
4     d = defaultdict(list)
5     n, m = map(int, input().split())
6     for i in range(1, n+1):
7         key = input()
8         d[key].append(i)
9
10    for i in range(m):
11        key = input()
12        if (len(d[key]) > 0):
13            print(' '.join(str(item) for item in d[key]))
14        else:
15            print(-1)
```

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Ejercicio 11:

LINK:

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

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/collections-counter/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 10.00 Status: **Accepted**

People who solved `collections.Counter()` attempted this next:

Collections.namedtuple()

You need to turn tuples into convenient containers using `collections.namedtuple()`.

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
1 from collections import Counter
2
3 if __name__ == '__main__':
4     total = 0
5     X = int(input())
6     shoes = Counter(list(map(int, input().split())))
7     customers = int(input())
8     for i in range(customers):
9         size, price = map(int, input().split())
10        if (size in shoes) and shoes[size] > 0:
11            shoes[size] -= 1
12            total += price
13
14    print(total)
15
```

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Ejercicio 12:

LINK:

<https://www.hackerrank.com/challenges/minimum-swaps-2/problem>

You made this submission a few seconds ago.

Score: 40.00 Status: **Accepted**

People who solved **Minimum Swaps 2** attempted this next:

Array Manipulation

Perform m operations on an array and print the maximum of the values.

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
3 import math
4 import os
5 import random
6 import re
7 import sys
8 |
9 # Complete the minimumSwaps function below.
10 def minimumSwaps(n, arr):
11     swaps = 0
12     for i in range(n):
13         while arr[i] != i + 1:
14             t = arr[arr[i] - 1]
15             arr[arr[i] - 1] = arr[i]
16             arr[i] = t
17             swaps += 1
18     return swaps
```

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Ejercicio 13:

LINK:

<https://www.hackerrank.com/challenges/floor-ceil-and-rint/problem>

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/floor-ceil-and-rint/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 20.00 Status: **Accepted**

People who solved **Floor, Ceil and Rint** attempted this next:

Sum and Prod

Perform the sum and prod functions of NumPy on the given 2-D array.

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
1 import numpy
2 numpy.set_printoptions(legacy='1.13')
3
4 if __name__ == '__main__':
5     n_array = list(map(float, input().split()))
6     print (numpy.floor(n_array))
7     print (numpy.ceil(n_array))
8     print (numpy rint(n_array))
9
10
11
12
```

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Ejercicio 14:

LINK:

<https://www.hackerrank.com/challenges/ctci-bubble-sort/problem>

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/ctci-bubble-sort/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 30.00 Status: **Accepted**

People who solved **Sorting: Bubble Sort** attempted this next:

Mark and Toys

You are Mark's best friend and have to help him buy as many toys as possible.

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
10 def countSwaps(n, a):
11     counter = 0
12     for i in range(n):
13         for j in range(n-1):
14             if (a[j] > a[j+1]):
15                 a[j], a[j+1] = a[j+1], a[j]
16                 counter +=1
17     return counter, a
18
19
20 if __name__ == '__main__':
21     n = int(input())
22
23     a = list(map(int, input().rstrip().split()))
24
25     counter, sort_a = countSwaps(n, a)
```

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Ejercicio 15:

LINK:

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

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/np-arrays/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 20.00 Status: **Accepted**

People who solved **Arrays** attempted this next:

Shape and Reshape

Using the shape and reshape tools available in the NumPy module, configure a list according to the guidelines.

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
2
3
4 def arrays(arr):
5     return numpy.array(list(arr),float)[::-1]
6
7
```

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Ejercicio 16:

LINK:

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

SOLUCIÓN:

https://www.hackerrank.com/rest/contests/master/challenges/np-zeros-and-ones/hackers/aleva90/download_solution

You made this submission a few seconds ago.

Score: 20.00 Status: **Accepted**

People who solved **Zeros and Ones** attempted this next:

Eye and Identity

Create an array using the identity or eye tools from the NumPy module.

[Solve Challenge](#)

Submitted Code

Language: Python 3

[Open in editor](#)

```
1 import numpy
2
3 dimensions = tuple(map(int, input().split()))
4 print(numpy.zeros(dimensions, int))
5 print(numpy.ones(dimensions, int))
6
```