

week1_assessment

January 24, 2022

You will use the values of what you find in this assignment to answer questions in the quiz that follows. You may want to open this notebook to be displayed side-by-side on screen with this next quiz.

1. Write a function that inputs an integers and returns the negative

```
In [2]: # Write your function here
def int_to_neg(input):
    return input * -1
```

```
In [4]: # Test your function with input x
x = 4
int_to_neg(x)
```

```
Out[4]: -4
```

2. Write a function that inputs a list of integers and returns the minimum value

```
In [10]: # Write your function here
def min_of_list(x):
    current_min = x[0]
    for i in x[1:] :
        if i < current_min :
            current_min = i
    return current_min
```

```
In [11]: # Test your function with input lst
lst = [-3, 0, 2, 100, -1, 2]

min_of_list(lst)
# Create you own input list to test with
```

```
Out[11]: -3
```

```
In [18]: import numpy as np

lst2 = (np.random.random(10))*-1
lst2
```

```
Out[18]: array([-0.90064197, -0.33584414, -0.3438986 , -0.92188804, -0.14868621,
               -0.96750008, -0.33927953, -0.81904239, -0.45740922, -0.77479552])
```

```
In [19]: min_of_list(lst2)
```

```
Out[19]: -0.9675000803614077
```

Challenge problem: Write a function that take in four arguments: lst1, lst2, str1, str2, and returns a pandas DataFrame that has the first column labeled str1 and the second column labaled str2, that have values lst1 and lst2 scaled to be between 0 and 1.

For example

```
lst1 = [1, 2, 3]
lst2 = [2, 4, 5]
str1 = 'one'
str2 = 'two'
```

```
my_function(lst1, lst2, str1, str2)
```

should return a DataFrame that looks like:

| | one | two |
|---|-----|------|
| 0 | 0 | 0 |
| 1 | .5 | .666 |
| 2 | 1 | 1 |

```
In [29]: def my_function(lst1, lst2, str1, str2) :
         return pd.DataFrame({str1 : lst1, str2 : lst2})
```

```
In [30]: # test your challenge problem function
import numpy as np
import pandas as pd

lst1 = np.random.randint(-234, 938, 100)
lst2 = np.random.randint(-522, 123, 100)
str1 = 'one'
str2 = 'alpha'
```

```
In [31]: my_function(lst1, lst2, str1, str2)
```

```
Out[31]:
```

| | one | alpha |
|---|------|-------|
| 0 | 843 | -9 |
| 1 | 445 | 84 |
| 2 | 704 | -210 |
| 3 | 186 | -229 |
| 4 | -107 | 79 |
| 5 | 240 | -288 |
| 6 | 622 | 75 |

| | | |
|----|------|------|
| 7 | 807 | -455 |
| 8 | 10 | -302 |
| 9 | 840 | -519 |
| 10 | 665 | -435 |
| 11 | -93 | -297 |
| 12 | 270 | -269 |
| 13 | 421 | -413 |
| 14 | 37 | -425 |
| 15 | -170 | 73 |
| 16 | 288 | -350 |
| 17 | 667 | -180 |
| 18 | 301 | -426 |
| 19 | 507 | -245 |
| 20 | 81 | -350 |
| 21 | 540 | -422 |
| 22 | -230 | -260 |
| 23 | 829 | -57 |
| 24 | 554 | -100 |
| 25 | 237 | -209 |
| 26 | 258 | -350 |
| 27 | 0 | -278 |
| 28 | -82 | -83 |
| 29 | 256 | -480 |
| .. | ... | ... |
| 70 | 713 | -469 |
| 71 | 708 | 50 |
| 72 | -56 | 23 |
| 73 | -143 | -57 |
| 74 | 633 | -501 |
| 75 | 498 | -193 |
| 76 | 50 | -427 |
| 77 | 791 | -457 |
| 78 | 254 | -142 |
| 79 | 42 | -181 |
| 80 | 511 | -409 |
| 81 | -155 | -109 |
| 82 | 426 | 76 |
| 83 | 394 | -256 |
| 84 | -176 | -344 |
| 85 | -144 | -453 |
| 86 | 277 | 114 |
| 87 | 581 | 36 |
| 88 | 177 | 30 |
| 89 | 30 | -128 |
| 90 | 215 | -209 |
| 91 | 444 | -215 |
| 92 | 510 | -362 |
| 93 | 511 | -174 |

| | | |
|----|-----|------|
| 94 | 286 | -148 |
| 95 | 491 | -464 |
| 96 | 726 | -465 |
| 97 | 478 | -99 |
| 98 | -1 | -391 |
| 99 | -7 | 17 |

[100 rows x 2 columns]