Group_05_Homework_03

January 11, 2021

1 Exercice 1:

write a function that takes a filename and then all the urls in the file "urls.txt" line by line. Remove the `http://www.` parts of each url and write the urls without `http://www.`part in the file "domains.txt". The function returns nothing.

Examples:

`http://www.rakuten.co.jp` should be `rakuten.co.jp`

`http://www.craigslist.org` should be `craigslist.org`

`http://www.amazon.de` should be `amazon.de`

```
[139]: # your code here

def get_domain(arr1: str):

    url_list = open('urls.txt')
    res = []

    for url in url_list:
        domain = url.split('www.')[-1].replace('\n', '')
        res.append(str(domain))
        file=open("domains.txt","w")
        for i in res:
            file.write(i+'\n')
    file.close()
```

```
[140]: get_domain('urls.txt')
```

2 Exercice 2: (Hint: Use lists inside a list to write a two dimensional array. Also use a for loop inside a for loop could be helpful)

Without using exernal library, create a function which print a matrix `n` x `n`with `1`on the diagonal, otherwise `0`. The function should take an argument `n`and then print the matrix.

Example: . for `n = 3`

```
1  0  0
0  1  0
0  0  1
```

. for n = 4

```
1  0  0  0
0  1  0  0
0  0  1  0
0  0  0  1
```

- 0.25 pt

etc...

```
[9]: n = int(input("How many rows?"))
     x = [[0] * n for i in range(n)]
     for i in range(n):
         for j in range(n):
             if i < j:
                 x[i][j] = 0
             elif i > j:
                 x[i][j] = 0
             else:
                 x[i][j] = 1
     for row in x:
         print(' '.join([str(elem) for elem in row]))
```

```
How many rows? 4
1 0 0 0
0 1 0 0
0 0 1 0
0 0 0 1
```

[ ]:

3   Exercice 3:

- 3.5 pts

Without using exernal library, compute the sum of two matrix. The sum of two matrix can be done as shown in the WIKI-PAGE . The function should be able to sum both `n x n` matrix and `n x m` matrix. Write a function witch takes two matrix and return the (sum) matrix.

You can use the function from exercice 2, to print the result :)

```
[ ]: # your code here
     def sum_
```

```
[ ]: # test your functions

     matrix_1 = [[1,3],[1,0],[1,2]]
```

```python
matrix_2 = [[0,0],[7,5],[2,1]]

matrix_3 = [[1,3,2],[2,3,1]]
matrix_4 = [[1,6],[0,1]]

sum_entrywise = sum_matrix(matrix_1, matrix_2)
print(format_print(sum_entrywise))

sum_direct_sum = direct_sum(matrix_3, matrix_4)
print(format_print(sum_direct_sum))
```