

LAB Logbook

Github repository link:

https://github.com/Salimboevm/ML_Finance

Lab 1

For the lab work in week 1, students were asked to create a vector using np.arange method and do some changes on the vector to practice Numpy and Python.

My SID is 1919019, and because of that created 19 elements(last two digits). Then, transformed this vector into a 2 dimensional array with 1 row using the reshape() method. Then, used NumPy's empty_like() method and slicing to create an independent array and save the values of the vector to that independent array. And finally, checked the shape attribute values of both arrays and printed all results at the end of each step.

Results:

```
[302]: vector = np.arange(19)
       print(vector)
[ 0  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18]
```

```
[306]: vector = vector.reshape(19,1)
       print(vector)
[[ 0]
 [ 1]
 [ 2]
 [ 3]
 [ 4]
 [ 5]
 [ 6]
 [ 7]
 [ 8]
 [ 9]
[10]
[11]
[12]
[13]
[14]
[15]
[16]
[17]
[18]]
```

```
[308]: new_array_2d = np.empty_like(vector)
       new_array_2d[:, :] = vector
       print(new_array_2d)
[[ 0]
 [ 1]
 [ 2]
 [ 3]
 [ 4]
 [ 5]
 [ 6]
 [ 7]
 [ 8]
 [ 9]
[10]
[11]
[12]
[13]
[14]
[15]
[16]
[17]
[18]]
```

```
[310]: print(vector.shape)
       print(new_array_2d.shape)
(19, 1)
(19, 1)
```

Lab 2

Lab 3

Lab 4

Lab 5

Lab 6

Lab 7

Lab 8

Lab 9

Lab 10

Lab 11

Lab 12