220962050_Arhaan_Lab01

August 2, 2024

[ ]:
```
import numpy as np
import pandas as pd
import scipy
import matplotlib as plt
import seaborn as sns
import sklearn
```

[ ]:
```
df = pd.read_csv('example.csv')
df
```

[ ]:

	one	two	three
0	example1	example2	example3
1	T1	T2	T3
2	Sunday	Monday	Tuesday
3	Wednesday	Thursday	Friday
4	Saturday	NaN	NaN

[ ]:
```
import csv
```

[ ]:
```
with open('example.csv', 'rt') as f:
    data= csv.reader(f)
    for i in data:
        print(i)
```

```
['one', 'two', 'three']
['example1', 'example2', 'example3']
['T1', 'T2', 'T3']
['Sunday', 'Monday', 'Tuesday']
['Wednesday', 'Thursday', 'Friday']
['Saturday', '', '']
```

[ ]:
```
reader=csv.DictReader(open('example.csv', 'rt'))
for i in reader:
    print(i)
```

```
{'one': 'example1', 'two': 'example2', 'three': 'example3'}
{'one': 'T1', 'two': 'T2', 'three': 'T3'}
{'one': 'Sunday', 'two': 'Monday', 'three': 'Tuesday'}
```

```
{'one': 'Wednesday', 'two': 'Thursday', 'three': 'Friday'}
{'one': 'Saturday', 'two': '', 'three': ''}
```

[ ]:
```
with open('example.csv', mode='a') as f:
    writer=csv.writer(f,delimiter=',',quotechar=",",quoting=csv.QUOTE_MINIMAL)
    writer.writerow(['One 1','Two 2','Three 3'])
```

[ ]:
```
ass1=np.arange(9)
ass1
```

[ ]:
```
array([0, 1, 2, 3, 4, 5, 6, 7, 8])
```

[ ]:
```
ass1.reshape(3,3)
```

[ ]:
```
array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])
```

[ ]:
```
ass2=np.arange(10)
```

[ ]:
```
for i in ass2:
    if ass2[i]%2 == 1:
        ass2[i] = -1
ass2
```

[ ]:
```
array([ 0, -1,  2, -1,  4, -1,  6, -1,  8, -1])
```

[ ]:
```
x=np.array([21,64,86,22,74,55,81,79,90,89])
y=np.array([21,7,3,45,10,29,55,4,37,18])
a = []
b = []
```

[ ]:
```
for i in range(10):
    if x[i] > y[i]:
        a.append(i)
    if x[i] == y[i]:
        b.append(i)
```

[ ]:
```
a
```

[ ]:
```
[1, 2, 4, 5, 6, 7, 8, 9]
```

[ ]:
```
b
```

[ ]:
```
[0]
```

[ ]:
```
ass4 = np.arange(100).reshape(5,-1)
```

[ ]:
```
ass4
```

[ ]:
```
ass4[0:, 0:4]
```

[ ]:
```
array([[ 0,  1,  2,  3],
       [20, 21, 22, 23],
       [40, 41, 42, 43],
       [60, 61, 62, 63],
       [80, 81, 82, 83]])
```

[ ]:
```
adq1 = []
for i in range(10):
    adq1.append(np.random.randint(30,40))
adq1
```

[ ]:
```
[31, 38, 37, 38, 31, 39, 37, 38, 34, 32]
```

[ ]:
```
matA=np.arange(9).reshape(3,3)
matA
```

[ ]:
```
array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])
```

[ ]:
```
matA + 1
```

[ ]:
```
array([[1, 2, 3],
       [4, 5, 6],
       [7, 8, 9]])
```

[ ]:
```
matA[-1][-1] + 1
```

[ ]:
```
9
```

[ ]:
```
matA
```

[ ]:
```
array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])
```

[ ]:
```
matA += 1
```

[ ]:
```
matA
```

[ ]:
```
array([[1, 2, 3],
       [4, 5, 6],
       [7, 8, 9]])
```

[ ]:
```
matA[-1][-1] += 1
```

[ ]:
```
matA
```

[ ]:
```
array([[ 1,  2,  3],
       [ 4,  5,  6],
       [ 7,  8, 10]])
```

[ ]:
```
matA[2]
```

[ ]:
```
array([ 7,  8, 10])
```

[ ]:
```
matB = np.array([7,8,10,4,5,6,1,2,3]).reshape(3,3)
```

[ ]:
```
matB
```

[ ]:
```
array([[ 7,  8, 10],
       [ 4,  5,  6],
       [ 1,  2,  3]])
```

[ ]:
```
matC = matA + matB
```

[ ]:
```
matC
```

[ ]:
```
array([[ 8, 10, 13],
       [ 8, 10, 12],
       [ 8, 10, 13]])
```

[ ]:
```
matE = matA - matB
```

[ ]:
```
matE
```

[ ]:
```
array([[-6, -6, -7],
       [ 0,  0,  0],
       [ 6,  6,  7]])
```

[ ]:
```
matD = matA.dot(matB)
matD
```

[ ]:
```
array([[ 18,  24,  31],
       [ 54,  69,  88],
       [ 91, 116, 148]])
```

[ ]:
```
matE.transpose()
```

[ ]:
```
array([[-6,  0,  6],
       [-6,  0,  6],
       [-7,  0,  7]])
```

[ ]:
```

```