

Numpy

- description : numpy
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Numpy

resource

word.zip


```
[ ] 1 import numpy as np

[ ] 1 data = [[1,2,3],[4,5,6],[7,8,9]]
2
3 for i in range(len(data)):
4     for j in range(len(data[0])):
5         data[i][j] += 2
6 data
↳ [[2, 4, 6], [8, 10, 12], [14, 16, 18]]

[ ] 1 # data = [[1,2,3],[4,5,6],[7,8,9]]
2 for i in range(len(data)):
3     for j in range(len(data[0])):
4         data[i][j] += 2
5 data+data
6 # 더해지지 않고 이어 붙여진다.
↳ [[4, 8, 12],
[16, 20, 24],
[28, 32, 36],
[4, 8, 12],
[16, 20, 24],
[28, 32, 36]]

[ ] 1 data = [[1,2,3],[4,5,6],[7,8,9]]
2 dataTwo = [[1,1,1],[2,2,2],[3,3,3]]
3
4 # 행렬과 스칼라의 곱
5 for i in range(len(data)):
6     for j in range(len(data[0])):
7         data[i][j] += 2
8 print(data)
9
10 # 행렬끼리 덧셈
11 for i in range(len(data)):
12     for j in range(len(data[0])):
13         data[i][j] += dataTwo[i][j]
14
15 print(data)
↳ [[2, 4, 6], [8, 10, 12], [14, 16, 18]]
[[3, 5, 7], [10, 12, 14], [17, 19, 21]]

[ ] 1 # data = [[1,2,3],[4,5,6],[7,8,9]]
2 # dataTwo = [[1,1,1],[2,2,2],[3,3,3]]
3
4 # array 선언
5 a = np.array(data)
6 b = np.array(dataTwo)
7
8 print(a)
9 print()
10 print(b)
11
12
↳ [[ 3  5  7]
[10 12 14]
[17 19 21]]

[[ 1  1]
[ 2  2]
[ 3  3]]

[ ] 1 # a
2 # [[ 1,  2,  3],
3 # [ 4,  5,  6],
4 # [ 7,  8,  9]]
5 a * 2
↳ array([[ 6, 10, 14],
[20, 24, 28],
[34, 38, 42]])

[ ] 1 # a
2 # [[ 1,  2,  3],
3 # [ 4,  5,  6],
4 # [ 7,  8,  9]]
5
6 a * a
↳ array([[ 6, 10, 14],
[20, 24, 28],
[34, 38, 42]])

[ ] 1 # a
2 # [[ 1,  2,  3],
3 # [ 4,  5,  6],
4 # [ 7,  8,  9]]
5
6 # b
7 # [[ 1,  1,  1],
8 # [ 2,  2,  2],
9 # [ 3,  3,  3]]
10 a + b
↳ array([[ 3,  5,  7],
[20, 24, 28],
[51, 57, 63]])

[ ] 1 # a
2 # [[ 1,  2,  3],
3 # [ 4,  5,  6],
4 # [ 7,  8,  9]]
5
6 # b
7 # [[ 1,  1,  1],
8 # [ 2,  2,  2],
9 # [ 3,  3,  3]]
10 np.dot(a, b)
↳ array([[ 34,  34,  34],
[ 76,  76,  76],
[118, 118, 118]])
```

Tip

, python

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