

Numpy

- description : numpy
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Numpy

[Google_Colab](#)


```
[ ] 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 # 더하지 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 datawo = [[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] += datawo[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 # datawo = [[1,1,1],[2,2,2],[3,3,3]]
3
4 # array 선언
5 a = np.array(data)
6 b = np.array(datawo)
7
8 print(a)
9 print()
10 print(b)
11
12
```

☞ [[3 5 7]
[10 12 14]
[17 19 21]]
[[1 1 1]
[2 2 2]
[3 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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