

Numpy

- description : numpy
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- lastupdate : 2020-07-14

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 # 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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. - 2023.12

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Last update: 2022/03/10 19:52

