Numpy 간단한 행렬 연산

- description : numpy 간단한 행렬 연산
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Numpy 간단한 행렬 연산

실행 환경

Google_Colab 사용하기

예제

간단한_행렬_연산

```
[ ]  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 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

도봉산핵주먹, numpy