In [ ]:

```
```

numpy

In [4]:

```
import numpy as np

x = np.array([[1,2,3], [4,5,6]])
print("x:₩n", x)
```

```
x:
 [[1 2 3]
 [4 5 6]]
```

scipy

In [5]:

```
from scipy import sparse

eye = np.eye(4)
print("Numpy 배열:₩n", eye)
```

```
Numpy 배열:
 [[1. 0. 0. 0.]
 [0. 1. 0. 0.]
 [0. 0. 1. 0.]
 [0. 0. 0. 1.]]
```

In [7]:

```
sparse_matrix = sparse.csr_matrix(eye)
print("₩nScipy의 CSR 행렬:₩n", sparse_matrix)
```

```
Scipy의 CSR 행렬:
   (0, 0)       1.0
  (1, 1)       1.0
  (2, 2)       1.0
  (3, 3)       1.0
```

In [8]:

```
data = np.ones(4)
row_indices = np.arange(4)
col_indices = np.arange(4)
eye_coo = sparse.coo_matrix((data, (row_indices, col_indices)))
print("COO 표현:₩n", eye_coo)
```

```
COO 표현:
   (0, 0)       1.0
  (1, 1)       1.0
  (2, 2)       1.0
  (3, 3)       1.0
```

matplotlib