

Create a 3D array by stacking the arrays along different axes/dimensions

```
a3_0 = np.stack((a1, a2)) # default axis=0 (dimension 0)
a3_1 = np.stack((a1, a2), axis=1) # dimension 1
a3_2 = np.stack((a1, a2), axis=2) # dimension 2
```

3D array from 2D arrays

```
a1 = np.arange(1, 13).reshape(3, 4)
a2 = np.arange(13, 25).reshape(3, 4)
```

1	2	3	4
5	6	7	8
9	10	11	12

13	14	15	16
17	18	19	20
21	22	23	24

```
# stack along axis 2
a3_2 = np.stack((a1, a2), axis=2)
a3_2.shape: (3, 4, 2)
```

```
# retrieve a1
a3_2[:, :, 0]
```

열이 4열씩 늘어남

1	13
2	14
3	15
4	16
5	17
6	18
7	19
8	20

```
# stack along axis 0
a3_0 = np.stack((a1, a2))
a3_0.shape: (2, 3, 4)
```

13	14	15	16
17	18	19	20
21	22	23	24

```
# retrieve a1
a3_0[0]
```

```
a3_0[0, :, :]
```

1	2	3	4
5	6	7	8
9	10	11	12

```
# stack along axis 1
a3_1 = np.stack((a1, a2), axis=1)
a3_1.shape: (3, 2, 4)
```

행이 4열씩 늘어남

1	2	3	4
13	14	15	16

5	6	7	8
17	18	19	20
9	10	11	12
21	22	23	24

```
# retrieve a1
a3_1[:, 0, :]
```