

```
1  ###
2  # Setup
3  import numpy as np
4
5  A = (0, 0, 0, 1)
6  B = (2, 0, 0, 1)
7  C = (1, 2, 0, 1)
8
9  T1 = [[2, 0, 0, 0], [0, 3, 0, 0], [0, 0, 1, 0], [0, 0, 0, 1]]
10 T2 = [[-1, 0, 0, 0], [0, 1, 0, 0], [0, 0, 1, 0], [0, 0, 0, 1]]
11 T3 = [
12     [np.cos(np.deg2rad(90)), np.sin(np.deg2rad(90)), 0, 0],
13     [-np.sin(np.deg2rad(90)), np.cos(np.deg2rad(90)), 0, 0],
14     [0, 0, 1, 0],
15     [0, 0, 0, 1],
16 ]
17 T4 = [[1, 0, 0, 0], [0, 1, 0, 0], [0, 0, 1, 0], [1, 2, 0, 1]]
18
19 np.matrix([A, B, C]) * np.matrix(T1) * np.matrix(T2) * np.matrix(T3) * np.matrix(T4)
20
21
22 # %%
23
```