

LAB 2 test cases

$${}^A T_B = \begin{bmatrix} 0 & 1 & 0 & 1 \\ 0 & 0 & -1 & 2 \\ -1 & 0 & 0 & 3 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$${}^B T_C = \begin{bmatrix} 0 & 0 & 1 & 4 \\ 0 & -1 & 0 & 5 \\ 1 & 0 & 0 & 6 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

Product

$${}^A T_C = {}^A T_B * {}^B T_C = \begin{bmatrix} 0 & -1 & 0 & 6 \\ -1 & 0 & 0 & -4 \\ 0 & 0 & -1 & -1 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

Inverse

$${}^B T_A = \begin{bmatrix} 0 & 0 & -1 & 3 \\ 1 & 0 & 0 & -1 \\ 0 & -1 & 0 & 2 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

Transform a point

$${}^B P = \begin{bmatrix} 2 \\ 3 \\ 4 \end{bmatrix}$$

$${}^A P = \begin{bmatrix} 4 \\ -2 \\ 1 \end{bmatrix}$$