

Identity Crisis

ZPRAC-16-17-Lab3

[50 Points]

After realizing that Nirbhay lied to him, Bikas starts fighting again. Amlan also joins the fight to teach Nirbhay (who doubted his face size) a lesson. Amidst fighting with each other, Amlan, Bikas and Nirbhay start feeling that their fight is too trivial to worry about. They begin to question life and the existence of reality. They fear the Universe is a Matrix and they have no identity. But, being an ESC101 student you don't have to think about such things. Given a 2×2 matrix A as input, check if $A * A^T$ is an identity matrix or not.

Note: The transpose of a matrix A , A^T is defined such that the i th row, j th column element of A^T is the j th row, i th column element of A :

$$[A^T]_{ij} = [A]_{ji}$$

Input:

Input consists of 4 numbers (possibly floats), $-1000 \leq A_{11}, A_{12}, A_{21}, A_{22} \leq 1000$ separated by space.

Output:

Yes, if $A * A^T$ is an identity matrix, or No if $A * A^T$ is not an identity matrix.

Note: An identity matrix is a matrix whose diagonal consists of 1 and the rest of the elements are 0.

Example:

Input:

1 0 0 1

Output:

Yes