UTOI

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Realiza a inversão de uma matriz de transformação homogênea.

Calling Syntax

arelb = tinvert(brela)

I/O Variables

`IN Double Matrix` **brela**: Homogeneous Transformation Matrix 4x4

`OU Double Matrix` **arelb**: Homogeneous Transformation Matrix 4x4

Example

```
brela = [0 -1 0 1;
         1  0 0 0;
         0  0 1 0;
         0  0 0 1];
arelb = tinvert(brela)
arelb =

    0     1     0     0
   -1     0     0     1
    0     0     1     0
    0     0     0     1
```

Version Control

1.0; Leonardo da Cunha Menegon, Michel Kagan, Vinícius Nardelli; 01/05/2023; First issue.

Function

```
function [arelb] = tinvert(brela)
```

Validity

```
        arguments
            brela {functions.mustBeHomTransfR}
        end
```

Main Calculations

```
        R_T = brela(1:3, 1:3)';
        O = brela(1:3, 4);
```

Output Data

```
        arelb = [R_T, -R_T*O;
                 0, 0, 0, 1];

    end
```

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