HW1.10. Find the coordinates of a vector in a different frame

The pose of frame 8 in the coordinates of frame 5 is

$$T_{58} = \begin{bmatrix} 0.17337517 & 0.75335698 & -0.63434557 & 0.4 \\ -0.27717569 & 0.65538986 & 0.70259360 & -0. \\ 0.94504745 & 0.05401289 & 0.32244057 & 0.0 \\ 0.00000000 & 0.00000000 & 0.00000000 & 1.0 \end{bmatrix}$$

A vector v in the coordinates of frame 5 is:

$$v_5 = \begin{bmatrix} -0.24752678 \\ -0.36733857 \\ -0.37209617 \end{bmatrix}$$

Python

```
import numpy as np

T_58 = np.array([[0.17337517, 0.75335698,
-0.63434557, 0.43781527], [-0.27717569,
0.65538986, 0.70259360, -0.63843582],
[0.94504745, 0.05401289, 0.32244057,
0.08212307], [0.00000000, 0.00000000,
0.00000000, 1.00000000]])
v_5 = np.array([[-0.24752678],
[-0.36733857], [-0.37209617]])
```

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Find v in the coordinates of frame 8:

$v_8 = $ | matrix (rtol=0.01, atol=1e-08) | ❓

| Save & Grade | Save | *Additional attempts available* |
| *Single attempt* | only | *with new variants* ❓ |

Homework 1

Assessment overview

Total points: 30/30

Score: 100%

Question

Value: 2

History: 1 2 3 1

Awarded points: 5/5

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