# 2025 USA-NA-AIO Round 1, Problem 2, Part 6

**USAAIO** 🛡　　　　**Mar 2025**

## Part 6 (5 points, non-coding task)

We make the following modifications on the previous part.

- We consider a special symmetric neural network that `out_features = in_features`.

- No bias in all affine transformations.

- The transformation matrix from the hidden layer to the output layer is binded to be the transpose of the transformation matrix from the input layer to the hidden layer

**What is the total number of learnable parameters in this model?**

- Reasoning is not required.

——————————————————— last visit ———————————————————

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<span style="color:red">Misplaced '#'</span>

`in_features * hidden_features`

<span style="color:red">"" END OF THIS PART ""</span>

**Doughwhee**　　　　**Dec 2025**

The second matrix is fixed so just in_features*hidden_features?

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