Homework 1:
put topic here

Consider the initial example $\mathcal{T}_{uncertain} = (\{u\}, \{v, w, x\}, \{y, z\})$
Then $\mathcal{A} = \{u, v, w, x, y, z\}$
With possible resolutions being:

$$\begin{aligned} \{u\} &: \text{u} \\ \{v, w, x\} &: \text{vwx, vxw, wvx, wxv, xvw, xwv} \\ \{y, z\} &: \text{yz, zy} \end{aligned}$$

For an uncertain set of size s there are $s!$ possible resolutions.
For an activity space of size a and there are a^l possible resolutions of length l. Therefore the size of a one-hot vector encdoing for all possible resolutions up to some length K is $\sum_{k=1}^{K} a^k$.

LSTM

input sequence length == output sequence length

Basic encoding with repeated uncertain sets

Sets/Sequence with one 1 per uncertain set

Sets/Sequence with multiple 1s per uncertain set

Seq2Seq

input sequence length <> output sequence length

Basic encoding (no need for repitition)

Sets/Sequence with one 1 per uncertain set

Sets/Sequence with multiple 1s per uncertain set

To Consider

- The output MUST be a resolution
- So, if the output with the highest probability is not a resolution, get the resolution with the highest probability
  - Is that easy to achieve? Try to get the activation information on the output layer!
  - Note: this can be handled on the level of uncertain sets. Once the sequence for an uncertain set has been predicted it is clear whether this sequence is part of a valid resolution