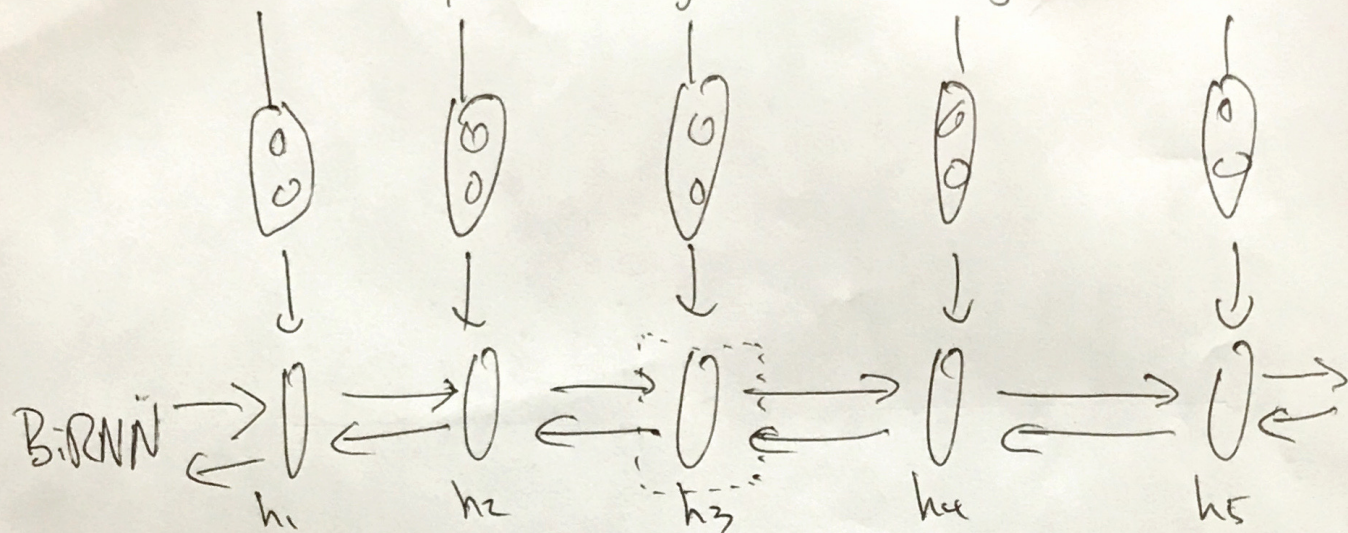
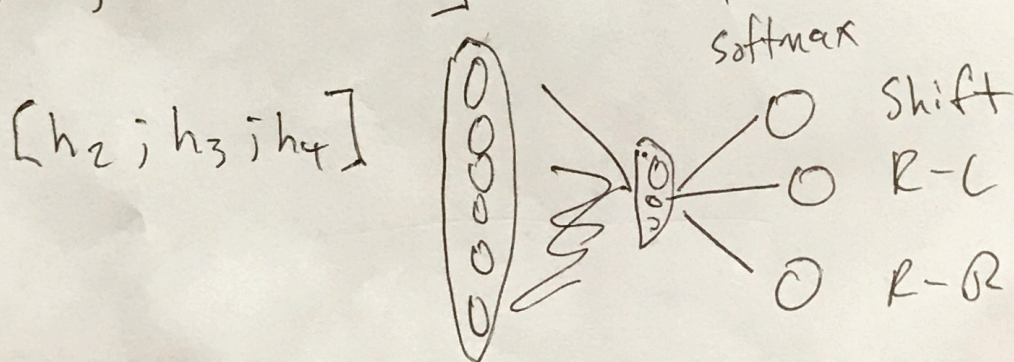


Book the flight through Houston



Stack = [root book ~~the~~ flight] \rightarrow [h_2 ; h_3]

buffer = [through Houston] \rightarrow h_4



the horse [ran past the barn] fell

the old man the boat
 [NP] verb [obj]

Part of Speech Tagging

loss fn: Hamming loss = # of wrong labels.

$x =$ this is not a sentence .

$y =$ Noun Verb Adv Det Noun Punct

mal = 0

$\vec{a} =$ Noun Verb Adv Det
 $a_1 \quad a_2 \quad a_{t-1} \quad \uparrow a_t^*$

$\vec{a} =$ Noun Noun Noun Det mal = 2
 $a_1 \quad a_2 \quad a_{t+1}$

$\vec{a} =$ Noun Noun Noun Det

loss fn: bigram Hamming = # of wrong tag bigrams
 pair w <s>, </s>

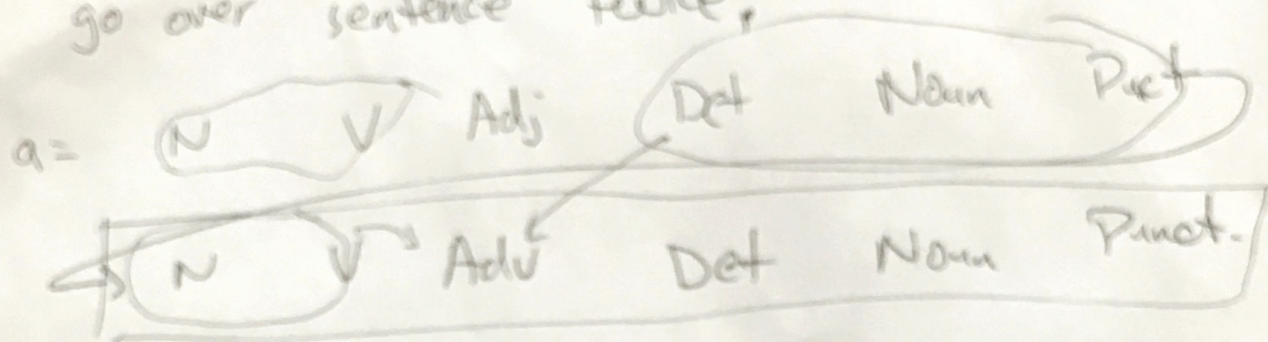
$y =$ <s> N V ADV D N PE </s>

$\vec{y} =$ <s> N V ADV D N PE </s>
 x x x x x x x $l=5$

$a =$ <s> N V x N x D mal = 2
 x x

hamming loss -

go over sentence twice;



a = N V Adj \longrightarrow MAL = 0