Q3 B130971

a)

tag \ word	friendly	fights	start	$
A	0.5×0.5=0.25	0	0	/
N	0.5×0.3=0.15	0.25×0.6×1=0.015	0.015×0.5×0.2=0.0015	/
V	0	0.15×0.5×0.2=0.015	0.015×0.5×0.1=0.00075	/
$	/	/	/	0.00075×0.5=0.000375

The most probable sequence of tags would be

friendly fights start

A N V,

with probability = 0.000375

b) For each word in the training data that is the last word of a sentence, set its POS tag as "L" that represents "last word". When tagging sentences in the test set, a word tagged with "L" would imply that it probably reaches the sentence boundary. After knowing the boundaries, we can include the boundaries and tag again to get the word's original POS tag.