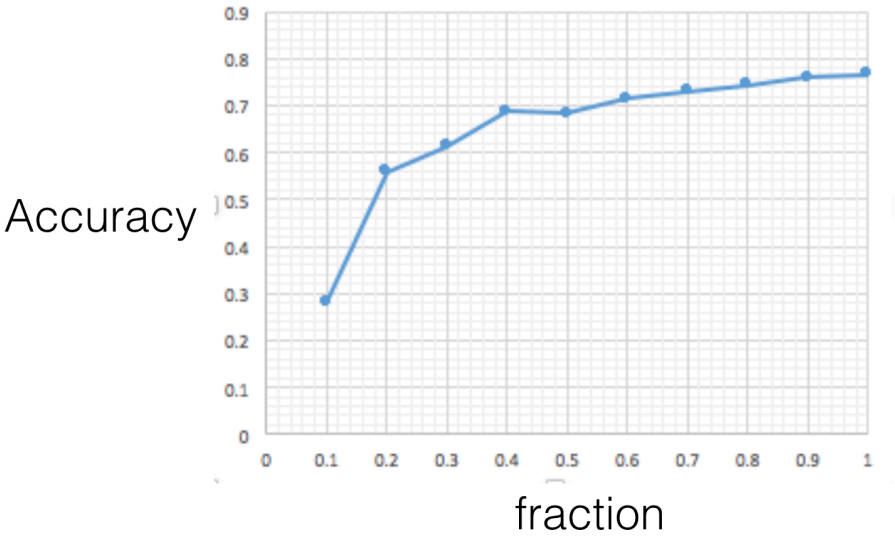
Part 2 Assignment 4 in B551 Elements of AI

In this report, we will report the performances depending on faction size.
This is the response to this prompt “In your report, show the accuracies as a function of fraction; particularly interesting cases are when fraction is 1 (fully supervised), 0 (unsupervised), or low (e.g. 0.1). “

** For implementation details, please refer to the source code. It has a comments for each meaningful block. **Please read the code, line by line, and their comments carefully.** (Sorry this sounds very redundant, but last time TA missed the comments in the middle of the source, so I emphasize.)

We tried performance test using fraction of 1.0, 0.90, ……, 0.10. Here we plot it:



Fraction	Accuracy
0	*0.054965480616
0.1	0.279739777
0.2	0.558284652
0.3	0.614179501
0.4	0.687166808
0.5	0.682421668
0.6	0.715613383
0.7	0.731147106
0.8	0.744158258
0.9	0.760355815
1	0.765932023

*We intentionally do not plot accuracy for faction of zero. For unsupervised case I used the approach 1 suggested here: https://piazza.com/class/irnmu9v26th48r?cid=325
"Just ignore this issue and treat the topic labels as the arbitrary numbers that they are. This mean you might do a really good job of finding the topics but the numbers might not line up with the ground truth, so it will look like you're getting very bad classification results."
So the accuracy is not meaningful.