Question 1 Answer:

file nytcounts.university_cat_dog has contexts for 3 words
Cosine similarity between cat and dog 0.966891672715
Cosine similarity between cat and university 0.660442421144
Cosine similarity between university and dog 0.659230248969

-The cosine similarities between **cat and dog** are high and it makes sense as they are generally used together in a phrase e.g.
1) The cats and dogs or their human caregivers?
2) Its raining cats and dogs today.

- The cosine similarity between **cat and university** makes sense, as it is not really used frequently in contexts. Also people usually don't have cats on universities as pet.

-The cosine similarity between **university and dog** is not high since there are very few instances where both these words are used together.
e.g. "Universities' clubs maintain dog lovers day where they bring dogs on campus and students cuddle them"