1. P(Comedy| fast, couple, shoot, fly)
   1. Non-smoothing:
      1. P(Comedy| fast, couple, shoot, fly)

=P(fast| Comedy) P(couple| Comedy) P(shoot| Comedy) P(fly| Comedy) P(Comedy)

=(1/7)\*(2/7)\*0\*(1/7)\*(2/5)

=0

* 1. Smoothing
     1. P(Comedy| fast, couple, shoot, fly)

=P(fast| Comedy) P(couple| Comedy) P(shoot| Comedy) P(fly| Comedy) P(Comedy)

=(2/14)\*(3/14)\*(1/14)\*(2/14)\*(2/5)

=3/24010

0.00012

P(Action| fast, couple, shoot, fly)

1. Non-smoothing
2. P(Action| fast, couple, shoot, fly)

= P(fast| Action) P(couple| Action) P(shoot| Action) P(fly| Action) P(Action)

=(2/10)\*0\*(3/10)\*(1/10)\*(3/5)

=0

1. Smoothing
2. P(Action| fast, couple, shoot, fly)

= P(fast| Action) P(couple| Action) P(shoot| Action) P(fly| Action) P(Action)

=(3/17)\*(1/17)\*(4/17)\*(2/17)\*(3/5)

=72/417605

0.00017

4.

1. Original: The striped bats were hanging on their feet and ate best fishes.

Lemmatized: The strip bat are hang on their foot and eat best fish.

1. Original: At some point, I realized that I started to use the bike more often, not only to get to work but also to catch up with friends and to head out for coffee on weekends.

Lemmatized: At some point, I realize that I start to use the bike more often, not only to get to work but also to catch up with friend and to head out for coffee on weekend.