1 Process

1. cw-cl-feature:
   (a) store cw-cl counts into dictionary, delete the frequency that is smaller than 3
   (b) Phi-1: returns a Python dictionary containing cw-cl counts for each pair of words and tags in the corpus
2. pl-cl-feature:
   (a) same as cw-cl,store pl-cl
3. predict
   (a) take a sentence as input return a prediction of label
   (b) apply the decimal to 5, to consider all possibility
   (c) then count the possibility,and output the highest one

2 Problem

1. accuracy:
   (a) the accuracy is very low so that I use the multi-pass and shuffle to enhance the performance

3 Result

1. F1 score:
   (a) current word_current label : 0.48
   (b) previous label_current label : 0.13
2. most positively weighted feature:
   (a) previous label_current label :('O_O', 2959), ('LOC_O', 940), ('ORG_O', 752), ('O_ORG', 99), ('O_LOC', 78), ('ORG_ORG', -72), ('PER_O', -83), ('LOC_LOC', -115), ('PER_PER', -140), ('O_PER', -156)
   (b) current word_current label : ('Results_O', 13), ('–_O', 11), ('(_O', 9), ('Men_O', 9), ('Women_O', 8), ('-_O', 8), ('Result_O', 8), ('Newsroom_ORG', 8), ('soccer_O', 8), ('matches_O', 8)
   (c) the top list make sense because most are O that are not a namely entity and other ORG looks like an organization as well