java -jar RankLib-2.18.jar -train normalize/SBFL\_closure.txt -ranker 1 -kcv 5 -kcvmd no\_Closure\_result/ -kcvmn rn -metric2t MAP -metric2T MAP -tvs 0.8

java -jar RankLib-2.18.jar -train normalize/SBFL\_closure.txt -ranker 1 -kcv 5 -kcvmd no\_Closure\_result/ -kcvmn rn -metric2t MAP -metric2T MAP -tvs 0.8

java -jar RankLib-2.18.jar -train normalize/SBFL\_closure.txt -ranker 1 -kcv 5 -kcvmd no\_Closure\_result/ -kcvmn rn -metric2t MAP -metric2T MAP

java -jar RankLib-2.18.jar -train normalize/SBFL\_closure.txt -ranker 1 -kcv 5 -kcvmd no\_Closure\_result/ -kcvmn rn -metric2t MAP -metric2T MAP -tvs 0.7

0.7就可以了?

java -jar RankLib-2.18.jar -train normalize/SBFL\_closure.txt -ranker 1 -kcv 5 -kcvmd no\_Closure\_result/ -kcvmn rn -metric2t MAP -metric2T MAP -tvs 0.8

java -jar RankLib-2.18.jar -train normalize/SBFL\_closure.txt -test normalize/SBFL\_chart.txt -ranker 1 -metric2t MAP -metric2T MAP -tvs 0.8

java -jar RankLib-2.18.jar -train normalize/SBFL\_closure.txt -test normalize/SBFL\_chart.txt -validate normalize/SBFL\_chart.txt -ranker 1 -metric2t MAP -metric2T MAP

不知道為甚麼用RankNet多了”-tvs 0.8”就會丟出exception，改成用0.7就可以。

最大就到0.7383

java -jar RankLib-2.18.jar -train normalize/SBFL\_closure.txt -ranker 4 -r 6 -kcv 5 -kcvmd Closure\_result/ -kcvmn ca -metric2t NDCG@10 -metric2T ERR@10 -tvs 0.8

改成Coordinate Ascent就能正常處理

ncyu@ncyu-virtual-machine:~/Ranklib$ java -jar RankLib-2.18.jar -train normalize/SBFL\_closure.txt -ranker 4 -r 6 -kcv 5 -kcvmd no\_Closure\_result/ -kcvmn ca -metric2t MAP -metric2T MAP -tvs 0.8

Discard orig. features

Training data: normalize/SBFL\_closure.txt

Cross validation: 5 folds.

Train-Validation split: 0.8

Feature vector representation: Dense.

Ranking method: Coordinate Ascent

Feature description file: Unspecified. All features will be used.

Train metric: MAP

Test metric: MAP

Feature normalization: No

Models directory: no\_Closure\_result/

Models' name: ca

[+] Coordinate Ascent's Parameters:

No. of random restarts: 6

No. of iterations to search in each direction: 25

Tolerance: 0.001

Regularization: No

Reading feature file [normalize/SBFL\_closure.txt]... [Done.]

(133 ranked lists, 2128 entries read)

Creating data for 5 folds... [Done]

Train[0]= "20027" "20028" "20029" "20030" "20031" "20032" "20033" "20034" "20035" "20036" "20037" "20038" "20039" "20040" "20041" "20042" "20043" "20044" "20045" "20046" "20047" "20048" "20049" "20050" "20051" "20052" "20053" "20054" "20055" "20056" "20057" "20058" "20059" "20060" "20061" "20062" "20063" "20064" "20065" "20066" "20067" "20068" "20069" "20070" "20071" "20072" "20073" "20074" "20075" "20076" "20077" "20078" "20079" "20080" "20081" "20082" "20083" "20084" "20085" "20086" "20087" "20088" "20089" "20090" "20091" "20092" "20093" "20094" "20095" "20096" "20097" "20098" "20099" "20100" "20101" "20102" "20103" "20104" "20105" "20106" "20107" "20108" "20109" "20110" "20111" "20112"

Train[1]= "20001" "20002" "20003" "20004" "20005" "20006" "20007" "20008" "20009" "20010" "20011" "20012" "20013" "20014" "20015" "20016" "20017" "20018" "20019" "20020" "20021" "20022" "20023" "20024" "20025" "20026" "20053" "20054" "20055" "20056" "20057" "20058" "20059" "20060" "20061" "20062" "20063" "20064" "20065" "20066" "20067" "20068" "20069" "20070" "20071" "20072" "20073" "20074" "20075" "20076" "20077" "20078" "20079" "20080" "20081" "20082" "20083" "20084" "20085" "20086" "20087" "20088" "20089" "20090" "20091" "20092" "20093" "20094" "20095" "20096" "20097" "20098" "20099" "20100" "20101" "20102" "20103" "20104" "20105" "20106" "20107" "20108" "20109" "20110" "20111" "20112"

Train[2]= "20001" "20002" "20003" "20004" "20005" "20006" "20007" "20008" "20009" "20010" "20011" "20012" "20013" "20014" "20015" "20016" "20017" "20018" "20019" "20020" "20021" "20022" "20023" "20024" "20025" "20026" "20027" "20028" "20029" "20030" "20031" "20032" "20033" "20034" "20035" "20036" "20037" "20038" "20039" "20040" "20041" "20042" "20043" "20044" "20045" "20046" "20047" "20048" "20049" "20050" "20051" "20052" "20079" "20080" "20081" "20082" "20083" "20084" "20085" "20086" "20087" "20088" "20089" "20090" "20091" "20092" "20093" "20094" "20095" "20096" "20097" "20098" "20099" "20100" "20101" "20102" "20103" "20104" "20105" "20106" "20107" "20108" "20109" "20110" "20111" "20112"

Train[3]= "20001" "20002" "20003" "20004" "20005" "20006" "20007" "20008" "20009" "20010" "20011" "20012" "20013" "20014" "20015" "20016" "20017" "20018" "20019" "20020" "20021" "20022" "20023" "20024" "20025" "20026" "20027" "20028" "20029" "20030" "20031" "20032" "20033" "20034" "20035" "20036" "20037" "20038" "20039" "20040" "20041" "20042" "20043" "20044" "20045" "20046" "20047" "20048" "20049" "20050" "20051" "20052" "20053" "20054" "20055" "20056" "20057" "20058" "20059" "20060" "20061" "20062" "20063" "20064" "20065" "20066" "20067" "20068" "20069" "20070" "20071" "20072" "20073" "20074" "20075" "20076" "20077" "20078" "20105" "20106" "20107" "20108" "20109" "20110" "20111" "20112"

Train[4]= "20001" "20002" "20003" "20004" "20005" "20006" "20007" "20008" "20009" "20010" "20011" "20012" "20013" "20014" "20015" "20016" "20017" "20018" "20019" "20020" "20021" "20022" "20023" "20024" "20025" "20026" "20027" "20028" "20029" "20030" "20031" "20032" "20033" "20034" "20035" "20036" "20037" "20038" "20039" "20040" "20041" "20042" "20043" "20044" "20045" "20046" "20047" "20048" "20049" "20050" "20051" "20052" "20053" "20054" "20055" "20056" "20057" "20058" "20059" "20060" "20061" "20062" "20063" "20064" "20065" "20066" "20067" "20068" "20069" "20070" "20071" "20072" "20073" "20074" "20075" "20076" "20077" "20078" "20079" "20080" "20081" "20082" "20083" "20084"

Validate[0]= "20133" "20132" "20131" "20130" "20129" "20128" "20127" "20126" "20125" "20124" "20123" "20122" "20121" "20120" "20119" "20118" "20117" "20116" "20115" "20114" "20113"

Validate[1]= "20133" "20132" "20131" "20130" "20129" "20128" "20127" "20126" "20125" "20124" "20123" "20122" "20121" "20120" "20119" "20118" "20117" "20116" "20115" "20114" "20113"

Validate[2]= "20133" "20132" "20131" "20130" "20129" "20128" "20127" "20126" "20125" "20124" "20123" "20122" "20121" "20120" "20119" "20118" "20117" "20116" "20115" "20114" "20113"

Validate[3]= "20133" "20132" "20131" "20130" "20129" "20128" "20127" "20126" "20125" "20124" "20123" "20122" "20121" "20120" "20119" "20118" "20117" "20116" "20115" "20114" "20113"

Validate[4]= "20104" "20103" "20102" "20101" "20100" "20099" "20098" "20097" "20096" "20095" "20094" "20093" "20092" "20091" "20090" "20089" "20088" "20087" "20086" "20085"

Test[0]= "20001" "20002" "20003" "20004" "20005" "20006" "20007" "20008" "20009" "20010" "20011" "20012" "20013" "20014" "20015" "20016" "20017" "20018" "20019" "20020" "20021" "20022" "20023" "20024" "20025" "20026"

Test[1]= "20027" "20028" "20029" "20030" "20031" "20032" "20033" "20034" "20035" "20036" "20037" "20038" "20039" "20040" "20041" "20042" "20043" "20044" "20045" "20046" "20047" "20048" "20049" "20050" "20051" "20052"

Test[2]= "20053" "20054" "20055" "20056" "20057" "20058" "20059" "20060" "20061" "20062" "20063" "20064" "20065" "20066" "20067" "20068" "20069" "20070" "20071" "20072" "20073" "20074" "20075" "20076" "20077" "20078"

Test[3]= "20079" "20080" "20081" "20082" "20083" "20084" "20085" "20086" "20087" "20088" "20089" "20090" "20091" "20092" "20093" "20094" "20095" "20096" "20097" "20098" "20099" "20100" "20101" "20102" "20103" "20104"

Test[4]= "20105" "20106" "20107" "20108" "20109" "20110" "20111" "20112" "20113" "20114" "20115" "20116" "20117" "20118" "20119" "20120" "20121" "20122" "20123" "20124" "20125" "20126" "20127" "20128" "20129" "20130" "20131" "20132" "20133"

Initializing... [Done]

---------------------------

Training starts...

---------------------------

[+] Random restart #1/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

3 | -0.311 | 0.1143 |

2 | +0.053 | 0.115 |

2 | -0.075 | 0.1163 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #2/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | -0.311 | 0.1143 |

5 | +0.691 | 0.115 |

5 | +1.203 | 0.1163 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #3/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.711 | 0.1143 |

5 | +1.223 | 0.115 |

5 | +2.247 | 0.1163 |

------------------------------

[+] Random restart #4/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

4 | -0.311 | 0.1143 |

1 | +0.053 | 0.115 |

1 | -0.075 | 0.1163 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #5/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.711 | 0.1143 |

5 | +1.223 | 0.115 |

5 | +2.247 | 0.1163 |

------------------------------

[+] Random restart #6/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | -0.311 | 0.1143 |

3 | +0.053 | 0.115 |

3 | -0.075 | 0.1163 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

---------------------------------

Finished sucessfully.

MAP on training data: 0.1163

MAP on validation data: 0.0

---------------------------------

Fold-1 model saved to: ca

Initializing... [Done]

---------------------------

Training starts...

---------------------------

[+] Random restart #1/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

4 | -0.311 | 0.1346 |

1 | +0.179 | 0.1363 |

1 | -0.075 | 0.1383 |

2 | +0.2001 | 0.1395 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #2/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.1331 |

2 | -0.055 | 0.1363 |

2 | -0.311 | 0.1375 |

1 | +0.179 | 0.1378 |

5 | +0.3072 | 0.1395 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #3/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

3 | -0.311 | 0.1346 |

5 | +0.181 | 0.1368 |

5 | +0.435 | 0.1395 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #4/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

4 | -0.311 | 0.1346 |

1 | +0.179 | 0.1363 |

1 | -0.075 | 0.1383 |

2 | +0.0741 | 0.1395 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #5/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

4 | -0.311 | 0.1346 |

5 | +0.181 | 0.1348 |

5 | +0.307 | 0.1368 |

5 | +0.435 | 0.1395 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #6/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

4 | -0.311 | 0.1346 |

1 | +0.179 | 0.1363 |

1 | -0.075 | 0.1383 |

5 | +0.3281 | 0.1395 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

---------------------------------

Finished sucessfully.

MAP on training data: 0.1395

MAP on validation data: 0.0

---------------------------------

Fold-2 model saved to: ca

Initializing... [Done]

---------------------------

Training starts...

---------------------------

[+] Random restart #1/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.0979 |

5 | +0.455 | 0.1006 |

5 | +0.711 | 0.1026 |

5 | +1.223 | 0.1034 |

5 | +2.247 | 0.1047 |

------------------------------

[+] Random restart #2/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.0962 |

2 | -0.055 | 0.0994 |

2 | -0.311 | 0.1006 |

4 | +0.053 | 0.1014 |

4 | -0.075 | 0.1026 |

1 | +0.2001 | 0.1029 |

5 | +0.3283 | 0.1047 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #3/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.0962 |

2 | -0.055 | 0.0994 |

2 | -0.311 | 0.1006 |

3 | +0.053 | 0.1014 |

3 | -0.075 | 0.1026 |

5 | +0.4561 | 0.1034 |

5 | +1.2241 | 0.1047 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #4/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.0962 |

2 | -0.055 | 0.0994 |

2 | -0.311 | 0.1006 |

4 | +0.053 | 0.1014 |

4 | -0.075 | 0.1026 |

5 | +0.2021 | 0.1029 |

5 | +0.3281 | 0.1047 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #5/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

1 | +0.199 | 0.0974 |

1 | -0.055 | 0.0994 |

4 | -0.2771 | 0.1022 |

5 | +0.2252 | 0.1034 |

5 | +0.2552 | 0.1047 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #6/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

4 | -0.311 | 0.0977 |

2 | +0.179 | 0.0982 |

2 | +0.053 | 0.099 |

2 | -0.075 | 0.1034 |

1 | +0.0741 | 0.1047 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

---------------------------------

Finished sucessfully.

MAP on training data: 0.1047

MAP on validation data: 0.0

---------------------------------

Fold-3 model saved to: ca

Initializing... [Done]

---------------------------

Training starts...

---------------------------

[+] Random restart #1/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.0999 |

5 | +0.455 | 0.1026 |

5 | +1.223 | 0.1034 |

5 | +2.247 | 0.1047 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #2/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

1 | +0.199 | 0.0994 |

1 | -0.055 | 0.1014 |

3 | -0.2771 | 0.1022 |

5 | +0.2252 | 0.1034 |

5 | +0.2552 | 0.1047 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #3/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.0982 |

2 | -0.055 | 0.1014 |

5 | +0.2349 | 0.1026 |

5 | +0.7449 | 0.1034 |

5 | +2.2809 | 0.1047 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #4/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.0982 |

2 | -0.055 | 0.1014 |

1 | +0.2329 | 0.1026 |

4 | -0.2768 | 0.1034 |

5 | +0.2556 | 0.1047 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #5/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.0999 |

5 | +0.455 | 0.1026 |

5 | +1.223 | 0.1034 |

5 | +2.247 | 0.1047 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #6/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

1 | +0.199 | 0.0994 |

1 | -0.055 | 0.1014 |

5 | +0.2349 | 0.1026 |

5 | +1.2569 | 0.1034 |

5 | +2.2809 | 0.1047 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

---------------------------------

Finished sucessfully.

MAP on training data: 0.1047

MAP on validation data: 0.0

---------------------------------

Fold-4 model saved to: ca

Initializing... [Done]

---------------------------

Training starts...

---------------------------

[+] Random restart #1/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

1 | +0.199 | 0.0899 |

1 | -0.055 | 0.0919 |

4 | -0.2771 | 0.0927 |

5 | +0.2252 | 0.094 |

5 | +0.2552 | 0.0952 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #2/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.0904 |

5 | +0.455 | 0.0932 |

5 | +1.223 | 0.094 |

5 | +2.247 | 0.0952 |

------------------------------

[+] Random restart #3/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.0886 |

2 | -0.055 | 0.0919 |

4 | -0.2771 | 0.0927 |

5 | +0.2252 | 0.094 |

5 | +0.2552 | 0.0952 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #4/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.0904 |

5 | +0.455 | 0.0932 |

5 | +1.223 | 0.094 |

5 | +2.247 | 0.0952 |

------------------------------

[+] Random restart #5/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

1 | +0.199 | 0.0899 |

1 | -0.055 | 0.0919 |

2 | +0.2329 | 0.0932 |

5 | +1.2572 | 0.094 |

5 | +2.2812 | 0.0952 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #6/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.0904 |

5 | +0.455 | 0.0932 |

5 | +1.223 | 0.094 |

5 | +2.247 | 0.0952 |

------------------------------

---------------------------------

Finished sucessfully.

MAP on training data: 0.0952

MAP on validation data: 0.2

---------------------------------

Fold-5 model saved to: ca

Summary:

MAP | Train | Test

----------------------------------

Fold 1 | 0.1163 | 0.1113

Fold 2 | 0.1395 | 0.0385

Fold 3 | 0.1047 | 0.1538

Fold 4 | 0.1047 | 0.1538

Fold 5 | 0.0952 | 0.0345

----------------------------------

Avg. | 0.1121 | 0.0984

----------------------------------

Total | | 0.0969

看起來使用Coordinate ascent的表現不好，使用其他的試試看。

嘗試RankBoostg試試看。

java -jar RankLib-2.18.jar -train normalize/SBFL\_closure.txt -ranker 2 -kcv 5 -kcvmd no\_Closure\_result/ -kcvmn rb -metric2t MAP -metric2T MAP -tvs 0.8

ncyu@ncyu-virtual-machine:~/Ranklib$ java -jar RankLib-2.18.jar -train normalize/SBFL\_closure.txt -ranker 2 -kcv 5 -kcvmd no\_Closure\_result/ -kcvmn rb -metric2t MAP -metric2T MAP -tvs 0.8

Discard orig. features

Training data: normalize/SBFL\_closure.txt

Cross validation: 5 folds.

Train-Validation split: 0.8

Feature vector representation: Dense.

Ranking method: RankBoost

Feature description file: Unspecified. All features will be used.

Train metric: MAP

Test metric: MAP

Feature normalization: No

Models directory: no\_Closure\_result/

Models' name: rb

[+] RankBoost's Parameters:

No. of rounds: 300

No. of threshold candidates: 10

Reading feature file [normalize/SBFL\_closure.txt]... [Done.]

(133 ranked lists, 2128 entries read)

Creating data for 5 folds... [Done]

Train[0]= "20027" "20028" "20029" "20030" "20031" "20032" "20033" "20034" "20035" "20036" "20037" "20038" "20039" "20040" "20041" "20042" "20043" "20044" "20045" "20046" "20047" "20048" "20049" "20050" "20051" "20052" "20053" "20054" "20055" "20056" "20057" "20058" "20059" "20060" "20061" "20062" "20063" "20064" "20065" "20066" "20067" "20068" "20069" "20070" "20071" "20072" "20073" "20074" "20075" "20076" "20077" "20078" "20079" "20080" "20081" "20082" "20083" "20084" "20085" "20086" "20087" "20088" "20089" "20090" "20091" "20092" "20093" "20094" "20095" "20096" "20097" "20098" "20099" "20100" "20101" "20102" "20103" "20104" "20105" "20106" "20107" "20108" "20109" "20110" "20111" "20112"

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Validate[2]= "20133" "20132" "20131" "20130" "20129" "20128" "20127" "20126" "20125" "20124" "20123" "20122" "20121" "20120" "20119" "20118" "20117" "20116" "20115" "20114" "20113"

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Validate[4]= "20104" "20103" "20102" "20101" "20100" "20099" "20098" "20097" "20096" "20095" "20094" "20093" "20092" "20091" "20090" "20089" "20088" "20087" "20086" "20085"

Test[0]= "20001" "20002" "20003" "20004" "20005" "20006" "20007" "20008" "20009" "20010" "20011" "20012" "20013" "20014" "20015" "20016" "20017" "20018" "20019" "20020" "20021" "20022" "20023" "20024" "20025" "20026"

Test[1]= "20027" "20028" "20029" "20030" "20031" "20032" "20033" "20034" "20035" "20036" "20037" "20038" "20039" "20040" "20041" "20042" "20043" "20044" "20045" "20046" "20047" "20048" "20049" "20050" "20051" "20052"

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Initializing... [Done]

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Training starts...

--------------------------------------------------------------------

#iter | Sel. F. | Threshold | Error | MAP-T | MAP-V |

--------------------------------------------------------------------

1 | 5 | 0.9 | 1.0 | 0.0234 | 0.0 |

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4 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

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234 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

235 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

236 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

237 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

238 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

239 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

240 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

241 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

242 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

243 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

244 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

245 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

246 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

247 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

248 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

249 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

250 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

251 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

252 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

253 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

254 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

255 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

256 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

257 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

258 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

259 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

260 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

261 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

262 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

263 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

264 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

265 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

266 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

267 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

268 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

269 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

270 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

271 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

272 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

273 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

274 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

275 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

276 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

277 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

278 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

279 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

280 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

281 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

282 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

283 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

284 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

285 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

286 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

287 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

288 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

289 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

290 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

291 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

292 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

293 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

294 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

295 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

296 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

297 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

298 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

299 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

300 | 1 | 1.0 | NaN | 0.0234 | 0.0 |

--------------------------------------------------------------------

Finished sucessfully.

MAP on training data: 0.0234

MAP on validation data: 0.0

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Fold-1 model saved to: rb

Initializing... [Done]

------------------------------------------

Training starts...

--------------------------------------------------------------------

#iter | Sel. F. | Threshold | Error | MAP-T | MAP-V |

--------------------------------------------------------------------

1 | 5 | 0.9 | 1.0 | 0.0273 | 0.0 |

2 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

3 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

4 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

5 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

6 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

7 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

8 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

9 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

10 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

11 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

12 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

13 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

14 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

15 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

16 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

17 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

18 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

19 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

20 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

21 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

22 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

23 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

24 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

25 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

26 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

27 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

28 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

29 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

30 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

31 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

32 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

33 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

34 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

35 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

36 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

37 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

38 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

39 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

40 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

41 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

42 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

43 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

44 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

45 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

46 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

47 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

48 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

49 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

50 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

51 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

52 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

53 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

54 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

55 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

56 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

57 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

58 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

59 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

60 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

61 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

62 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

63 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

64 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

65 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

66 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

67 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

68 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

69 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

70 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

71 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

72 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

73 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

74 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

75 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

76 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

77 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

78 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

79 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

80 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

81 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

82 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

83 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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85 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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87 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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89 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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94 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

95 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

96 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

97 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

98 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

99 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

100 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

101 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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104 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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107 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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111 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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114 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

115 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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117 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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146 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

147 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

148 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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150 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

151 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

152 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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154 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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156 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

157 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

158 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

159 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

160 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

161 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

162 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

163 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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165 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

166 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

167 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

168 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

169 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

170 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

171 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

172 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

173 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

174 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

175 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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177 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

178 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

179 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

180 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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187 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

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191 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

192 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

193 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

194 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

195 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

196 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

197 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

198 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

199 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

200 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

201 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

202 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

203 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

204 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

205 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

206 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

207 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

208 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

209 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

210 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

211 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

212 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

213 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

214 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

215 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

216 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

217 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

218 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

219 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

220 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

221 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

222 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

223 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

224 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

225 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

226 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

227 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

228 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

229 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

230 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

231 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

232 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

233 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

234 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

235 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

236 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

237 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

238 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

239 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

240 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

241 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

242 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

243 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

244 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

245 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

246 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

247 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

248 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

249 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

250 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

251 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

252 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

253 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

254 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

255 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

256 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

257 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

258 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

259 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

260 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

261 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

262 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

263 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

264 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

265 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

266 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

267 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

268 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

269 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

270 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

271 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

272 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

273 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

274 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

275 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

276 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

277 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

278 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

279 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

280 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

281 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

282 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

283 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

284 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

285 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

286 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

287 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

288 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

289 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

290 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

291 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

292 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

293 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

294 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

295 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

296 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

297 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

298 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

299 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

300 | 1 | 1.0 | NaN | 0.0273 | 0.0 |

--------------------------------------------------------------------

Finished sucessfully.

MAP on training data: 0.0273

MAP on validation data: 0.0

---------------------------------

Fold-2 model saved to: rb

Initializing... [Done]

------------------------------------------

Training starts...

--------------------------------------------------------------------

#iter | Sel. F. | Threshold | Error | MAP-T | MAP-V |

--------------------------------------------------------------------

1 | 5 | 0.9 | 1.0 | 0.0175 | 0.0 |

2 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

3 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

4 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

5 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

6 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

7 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

8 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

9 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

10 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

11 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

12 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

13 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

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299 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

300 | 1 | 1.0 | NaN | 0.0175 | 0.0 |

--------------------------------------------------------------------

Finished sucessfully.

MAP on training data: 0.0175

MAP on validation data: 0.0

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Fold-3 model saved to: rb

Initializing... [Done]

------------------------------------------

Training starts...

--------------------------------------------------------------------

#iter | Sel. F. | Threshold | Error | MAP-T | MAP-V |

--------------------------------------------------------------------

1 | 5 | 0.9 | 1.0 | 0.0215 | 0.0 |

2 | 1 | 1.0 | NaN | 0.0215 | 0.0 |

3 | 1 | 1.0 | NaN | 0.0215 | 0.0 |

4 | 1 | 1.0 | NaN | 0.0215 | 0.0 |

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300 | 1 | 1.0 | NaN | 0.0215 | 0.0 |

--------------------------------------------------------------------

Finished sucessfully.

MAP on training data: 0.0215

MAP on validation data: 0.0

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Fold-4 model saved to: rb

Initializing... [Done]

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Training starts...

--------------------------------------------------------------------

#iter | Sel. F. | Threshold | Error | MAP-T | MAP-V |

--------------------------------------------------------------------

1 | 5 | 0.9 | 1.0 | 0.02 | 0.0865 |

2 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

3 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

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180 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

181 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

182 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

183 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

184 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

185 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

186 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

187 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

188 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

189 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

190 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

191 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

192 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

193 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

194 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

195 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

196 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

197 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

198 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

199 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

200 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

201 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

202 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

203 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

204 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

205 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

206 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

207 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

208 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

209 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

210 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

211 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

212 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

213 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

214 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

215 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

216 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

217 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

218 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

219 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

220 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

221 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

222 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

223 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

224 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

225 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

226 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

227 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

228 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

229 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

230 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

231 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

232 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

233 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

234 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

235 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

236 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

237 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

238 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

239 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

240 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

241 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

242 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

243 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

244 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

245 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

246 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

247 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

248 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

249 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

250 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

251 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

252 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

253 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

254 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

255 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

256 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

257 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

258 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

259 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

260 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

261 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

262 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

263 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

264 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

265 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

266 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

267 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

268 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

269 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

270 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

271 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

272 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

273 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

274 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

275 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

276 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

277 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

278 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

279 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

280 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

281 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

282 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

283 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

284 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

285 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

286 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

287 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

288 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

289 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

290 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

291 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

292 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

293 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

294 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

295 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

296 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

297 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

298 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

299 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

300 | 1 | 1.0 | NaN | 0.02 | 0.0865 |

--------------------------------------------------------------------

Finished sucessfully.

MAP on training data: 0.02

MAP on validation data: 0.0865

---------------------------------

Fold-5 model saved to: rb

Summary:

MAP | Train | Test

----------------------------------

Fold 1 | 0.0234 | 0.0529

Fold 2 | 0.0273 | 0.0196

Fold 3 | 0.0175 | 0.0865

Fold 4 | 0.0215 | 0.0665

Fold 5 | 0.02 | 0.0176

----------------------------------

Avg. | 0.0219 | 0.0486

----------------------------------

Total | | 0.0479

看起來不管用甚麼演算法closure的結果都不太好。

接著使用剛剛的模型來預測其他的project試試看。

java -jar RankLib-2.18.jar -load no\_Closure\_result/f1.rb -rank normalize/SBFL\_chart.txt -indri closure\_f1.rb\_result.txt

**結果全是錯誤的，再改其他的。**

ncyu@ncyu-virtual-machine:~/Ranklib$ java -jar RankLib-2.18.jar -train normalize/SBFL\_closure.txt -ranker 4 -r 6 -kcv 5 -kcvmd no\_Closure\_result/ -kcvmn ca -metric2t MAP -metric2T MAP -tvs 0.72

Discard orig. features

Training data: normalize/SBFL\_closure.txt

Cross validation: 5 folds.

Train-Validation split: 0.72

Feature vector representation: Dense.

Ranking method: Coordinate Ascent

Feature description file: Unspecified. All features will be used.

Train metric: MAP

Test metric: MAP

Feature normalization: No

Models directory: no\_Closure\_result/

Models' name: ca

[+] Coordinate Ascent's Parameters:

No. of random restarts: 6

No. of iterations to search in each direction: 25

Tolerance: 0.001

Regularization: No

Reading feature file [normalize/SBFL\_closure.txt]... [Done.]

(133 ranked lists, 2128 entries read)

Creating data for 5 folds... [Done]

Train[0]= "20027" "20028" "20029" "20030" "20031" "20032" "20033" "20034" "20035" "20036" "20037" "20038" "20039" "20040" "20041" "20042" "20043" "20044" "20045" "20046" "20047" "20048" "20049" "20050" "20051" "20052" "20053" "20054" "20055" "20056" "20057" "20058" "20059" "20060" "20061" "20062" "20063" "20064" "20065" "20066" "20067" "20068" "20069" "20070" "20071" "20072" "20073" "20074" "20075" "20076" "20077" "20078" "20079" "20080" "20081" "20082" "20083" "20084" "20085" "20086" "20087" "20088" "20089" "20090" "20091" "20092" "20093" "20094" "20095" "20096" "20097" "20098" "20099" "20100" "20101" "20102" "20103" "20104"

Train[1]= "20001" "20002" "20003" "20004" "20005" "20006" "20007" "20008" "20009" "20010" "20011" "20012" "20013" "20014" "20015" "20016" "20017" "20018" "20019" "20020" "20021" "20022" "20023" "20024" "20025" "20026" "20053" "20054" "20055" "20056" "20057" "20058" "20059" "20060" "20061" "20062" "20063" "20064" "20065" "20066" "20067" "20068" "20069" "20070" "20071" "20072" "20073" "20074" "20075" "20076" "20077" "20078" "20079" "20080" "20081" "20082" "20083" "20084" "20085" "20086" "20087" "20088" "20089" "20090" "20091" "20092" "20093" "20094" "20095" "20096" "20097" "20098" "20099" "20100" "20101" "20102" "20103" "20104"

Train[2]= "20001" "20002" "20003" "20004" "20005" "20006" "20007" "20008" "20009" "20010" "20011" "20012" "20013" "20014" "20015" "20016" "20017" "20018" "20019" "20020" "20021" "20022" "20023" "20024" "20025" "20026" "20027" "20028" "20029" "20030" "20031" "20032" "20033" "20034" "20035" "20036" "20037" "20038" "20039" "20040" "20041" "20042" "20043" "20044" "20045" "20046" "20047" "20048" "20049" "20050" "20051" "20052" "20079" "20080" "20081" "20082" "20083" "20084" "20085" "20086" "20087" "20088" "20089" "20090" "20091" "20092" "20093" "20094" "20095" "20096" "20097" "20098" "20099" "20100" "20101" "20102" "20103" "20104"

Train[3]= "20001" "20002" "20003" "20004" "20005" "20006" "20007" "20008" "20009" "20010" "20011" "20012" "20013" "20014" "20015" "20016" "20017" "20018" "20019" "20020" "20021" "20022" "20023" "20024" "20025" "20026" "20027" "20028" "20029" "20030" "20031" "20032" "20033" "20034" "20035" "20036" "20037" "20038" "20039" "20040" "20041" "20042" "20043" "20044" "20045" "20046" "20047" "20048" "20049" "20050" "20051" "20052" "20053" "20054" "20055" "20056" "20057" "20058" "20059" "20060" "20061" "20062" "20063" "20064" "20065" "20066" "20067" "20068" "20069" "20070" "20071" "20072" "20073" "20074" "20075" "20076" "20077" "20078"

Train[4]= "20001" "20002" "20003" "20004" "20005" "20006" "20007" "20008" "20009" "20010" "20011" "20012" "20013" "20014" "20015" "20016" "20017" "20018" "20019" "20020" "20021" "20022" "20023" "20024" "20025" "20026" "20027" "20028" "20029" "20030" "20031" "20032" "20033" "20034" "20035" "20036" "20037" "20038" "20039" "20040" "20041" "20042" "20043" "20044" "20045" "20046" "20047" "20048" "20049" "20050" "20051" "20052" "20053" "20054" "20055" "20056" "20057" "20058" "20059" "20060" "20061" "20062" "20063" "20064" "20065" "20066" "20067" "20068" "20069" "20070" "20071" "20072" "20073" "20074" "20075"

Validate[0]= "20133" "20132" "20131" "20130" "20129" "20128" "20127" "20126" "20125" "20124" "20123" "20122" "20121" "20120" "20119" "20118" "20117" "20116" "20115" "20114" "20113" "20112" "20111" "20110" "20109" "20108" "20107" "20106" "20105"

Validate[1]= "20133" "20132" "20131" "20130" "20129" "20128" "20127" "20126" "20125" "20124" "20123" "20122" "20121" "20120" "20119" "20118" "20117" "20116" "20115" "20114" "20113" "20112" "20111" "20110" "20109" "20108" "20107" "20106" "20105"

Validate[2]= "20133" "20132" "20131" "20130" "20129" "20128" "20127" "20126" "20125" "20124" "20123" "20122" "20121" "20120" "20119" "20118" "20117" "20116" "20115" "20114" "20113" "20112" "20111" "20110" "20109" "20108" "20107" "20106" "20105"

Validate[3]= "20133" "20132" "20131" "20130" "20129" "20128" "20127" "20126" "20125" "20124" "20123" "20122" "20121" "20120" "20119" "20118" "20117" "20116" "20115" "20114" "20113" "20112" "20111" "20110" "20109" "20108" "20107" "20106" "20105"

Validate[4]= "20104" "20103" "20102" "20101" "20100" "20099" "20098" "20097" "20096" "20095" "20094" "20093" "20092" "20091" "20090" "20089" "20088" "20087" "20086" "20085" "20084" "20083" "20082" "20081" "20080" "20079" "20078" "20077" "20076"

Test[0]= "20001" "20002" "20003" "20004" "20005" "20006" "20007" "20008" "20009" "20010" "20011" "20012" "20013" "20014" "20015" "20016" "20017" "20018" "20019" "20020" "20021" "20022" "20023" "20024" "20025" "20026"

Test[1]= "20027" "20028" "20029" "20030" "20031" "20032" "20033" "20034" "20035" "20036" "20037" "20038" "20039" "20040" "20041" "20042" "20043" "20044" "20045" "20046" "20047" "20048" "20049" "20050" "20051" "20052"

Test[2]= "20053" "20054" "20055" "20056" "20057" "20058" "20059" "20060" "20061" "20062" "20063" "20064" "20065" "20066" "20067" "20068" "20069" "20070" "20071" "20072" "20073" "20074" "20075" "20076" "20077" "20078"

Test[3]= "20079" "20080" "20081" "20082" "20083" "20084" "20085" "20086" "20087" "20088" "20089" "20090" "20091" "20092" "20093" "20094" "20095" "20096" "20097" "20098" "20099" "20100" "20101" "20102" "20103" "20104"

Test[4]= "20105" "20106" "20107" "20108" "20109" "20110" "20111" "20112" "20113" "20114" "20115" "20116" "20117" "20118" "20119" "20120" "20121" "20122" "20123" "20124" "20125" "20126" "20127" "20128" "20129" "20130" "20131" "20132" "20133"

Initializing... [Done]

---------------------------

Training starts...

---------------------------

[+] Random restart #1/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | -0.311 | 0.1132 |

5 | +1.203 | 0.114 |

5 | +2.227 | 0.1154 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #2/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

4 | -0.311 | 0.1132 |

5 | +0.307 | 0.114 |

5 | +0.691 | 0.1154 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #3/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

3 | -0.311 | 0.1132 |

2 | +0.053 | 0.114 |

2 | -0.075 | 0.1154 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #4/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

3 | -0.311 | 0.1132 |

5 | +0.307 | 0.114 |

5 | +0.691 | 0.1154 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #5/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

3 | -0.311 | 0.1132 |

4 | +0.053 | 0.114 |

4 | -0.075 | 0.1154 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #6/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.711 | 0.1132 |

5 | +1.223 | 0.114 |

5 | +2.247 | 0.1154 |

------------------------------

---------------------------------

Finished sucessfully.

MAP on training data: 0.1154

MAP on validation data: 0.0345

---------------------------------

Fold-1 model saved to: ca

Initializing... [Done]

---------------------------

Training starts...

---------------------------

[+] Random restart #1/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.1339 |

2 | -0.055 | 0.1374 |

2 | -0.311 | 0.1388 |

5 | +0.691 | 0.141 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #2/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

1 | +0.199 | 0.1353 |

1 | -0.055 | 0.1374 |

3 | -0.2771 | 0.1397 |

5 | +0.4792 | 0.141 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #3/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.1339 |

2 | -0.055 | 0.1374 |

2 | -0.311 | 0.1388 |

1 | +0.179 | 0.1391 |

5 | +0.3072 | 0.141 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #4/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.1358 |

5 | +0.455 | 0.1388 |

5 | +0.711 | 0.141 |

------------------------------

[+] Random restart #5/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.1358 |

5 | +0.455 | 0.1388 |

5 | +0.711 | 0.141 |

------------------------------

[+] Random restart #6/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.1358 |

5 | +0.455 | 0.1388 |

5 | +0.711 | 0.141 |

------------------------------

---------------------------------

Finished sucessfully.

MAP on training data: 0.141

MAP on validation data: 0.0345

---------------------------------

Fold-2 model saved to: ca

Initializing... [Done]

---------------------------

Training starts...

---------------------------

[+] Random restart #1/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

4 | -0.311 | 0.0949 |

5 | +0.181 | 0.0974 |

5 | +0.307 | 0.0982 |

5 | +0.435 | 0.1012 |

5 | +0.691 | 0.1026 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #2/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.0932 |

2 | -0.055 | 0.0968 |

2 | -0.311 | 0.0981 |

4 | +0.053 | 0.099 |

4 | -0.075 | 0.1003 |

5 | +0.2021 | 0.1006 |

5 | +0.3281 | 0.1026 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #3/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

3 | -0.311 | 0.0949 |

4 | +0.053 | 0.0957 |

4 | -0.075 | 0.0971 |

5 | +0.2021 | 0.0996 |

5 | +0.4561 | 0.1026 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #4/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

1 | +0.199 | 0.0946 |

1 | -0.055 | 0.0968 |

2 | +0.2329 | 0.0981 |

5 | +0.7452 | 0.1012 |

5 | +2.2812 | 0.1026 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #5/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

3 | -0.311 | 0.0949 |

4 | +0.053 | 0.0957 |

4 | -0.075 | 0.0971 |

5 | +0.2021 | 0.0996 |

5 | +0.4561 | 0.1026 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #6/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.0952 |

5 | +0.455 | 0.0981 |

5 | +0.711 | 0.1003 |

5 | +1.223 | 0.1012 |

5 | +2.247 | 0.1026 |

------------------------------

---------------------------------

Finished sucessfully.

MAP on training data: 0.1026

MAP on validation data: 0.0345

---------------------------------

Fold-3 model saved to: ca

Initializing... [Done]

---------------------------

Training starts...

---------------------------

[+] Random restart #1/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.0974 |

5 | +0.455 | 0.1003 |

5 | +1.223 | 0.1012 |

5 | +2.247 | 0.1026 |

------------------------------

[+] Random restart #2/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

4 | -0.823 | 0.0971 |

1 | +0.1222 | 0.099 |

2 | +0.1224 | 0.0996 |

5 | +0.2505 | 0.1026 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #3/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.0974 |

5 | +0.455 | 0.1003 |

5 | +1.223 | 0.1012 |

5 | +2.247 | 0.1026 |

------------------------------

[+] Random restart #4/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.0954 |

2 | -0.055 | 0.099 |

5 | +0.2349 | 0.1003 |

5 | +0.7449 | 0.1012 |

5 | +2.2809 | 0.1026 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #5/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.0954 |

2 | -0.055 | 0.099 |

4 | -0.2771 | 0.0998 |

3 | +0.2092 | 0.1012 |

5 | +0.2287 | 0.1026 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #6/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.0954 |

2 | -0.055 | 0.099 |

1 | +0.2329 | 0.1003 |

5 | +0.7452 | 0.1012 |

5 | +2.2812 | 0.1026 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

---------------------------------

Finished sucessfully.

MAP on training data: 0.1026

MAP on validation data: 0.0345

---------------------------------

Fold-4 model saved to: ca

Initializing... [Done]

---------------------------

Training starts...

---------------------------

[+] Random restart #1/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

2 | +0.199 | 0.0993 |

2 | -0.055 | 0.1029 |

5 | +0.2349 | 0.1044 |

5 | +0.7449 | 0.1052 |

5 | +2.2809 | 0.1067 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #2/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.1013 |

5 | +0.455 | 0.1044 |

5 | +1.223 | 0.1052 |

5 | +2.247 | 0.1067 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #3/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

3 | -0.823 | 0.101 |

1 | +0.1222 | 0.103 |

2 | +0.1224 | 0.1036 |

5 | +0.2505 | 0.1067 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #4/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

1 | +0.199 | 0.1007 |

1 | -0.055 | 0.1029 |

5 | +0.2349 | 0.1044 |

5 | +1.2569 | 0.1052 |

5 | +2.2809 | 0.1067 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

[+] Random restart #5/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.1013 |

5 | +0.455 | 0.1044 |

5 | +1.223 | 0.1052 |

5 | +2.247 | 0.1067 |

------------------------------

[+] Random restart #6/6...

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

5 | +0.201 | 0.1013 |

5 | +0.455 | 0.1044 |

5 | +1.223 | 0.1052 |

5 | +2.247 | 0.1067 |

------------------------------

Shuffling features' order... [Done.]

Optimizing weight vector...

------------------------------

Feature | weight | MAP |

------------------------------

------------------------------

---------------------------------

Finished sucessfully.

MAP on training data: 0.1067

MAP on validation data: 0.1379

---------------------------------

Fold-5 model saved to: ca

Summary:

MAP | Train | Test

----------------------------------

Fold 1 | 0.1154 | 0.1154

Fold 2 | 0.141 | 0.0385

Fold 3 | 0.1026 | 0.1538

Fold 4 | 0.1026 | 0.1538

Fold 5 | 0.1067 | 0.0345

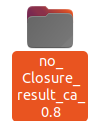
----------------------------------

Avg. | 0.1137 | 0.0992

----------------------------------

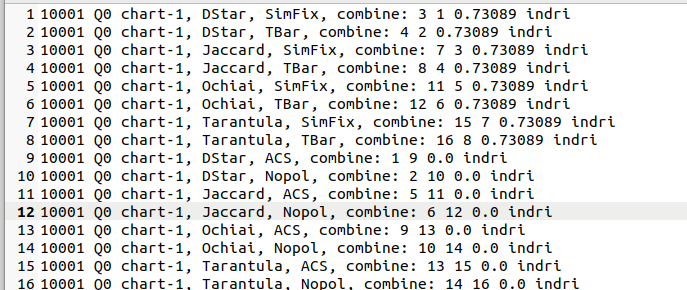
Total | | 0.0977

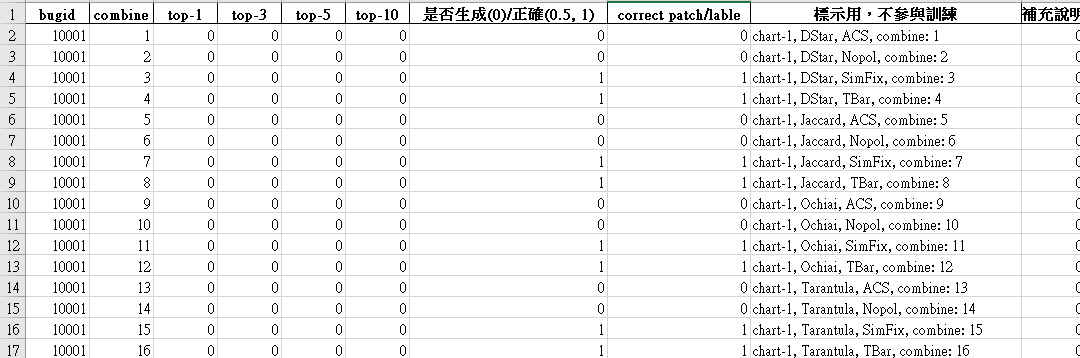
儲存檔案為



將結果模型應用在Chart

java -jar RankLib-2.18.jar -load no\_Closure\_result\_ca\_0.8/f1.ca -rank normalize/SBFL\_chart.txt -indri closure\_f1.ca\_in\_chart\_result.txt

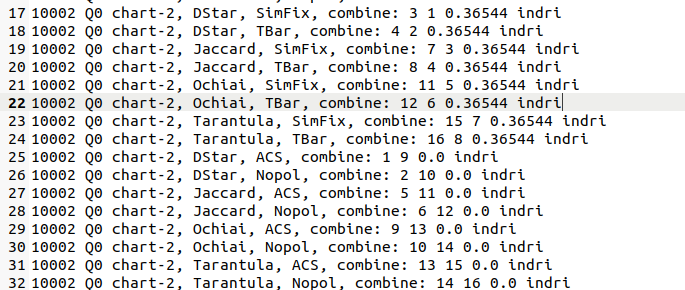
得出的結果，可以明顯發現確實有將3,4,7,8,11,12,15,16排在前面，而剩下的全部的可能性分數都是0。

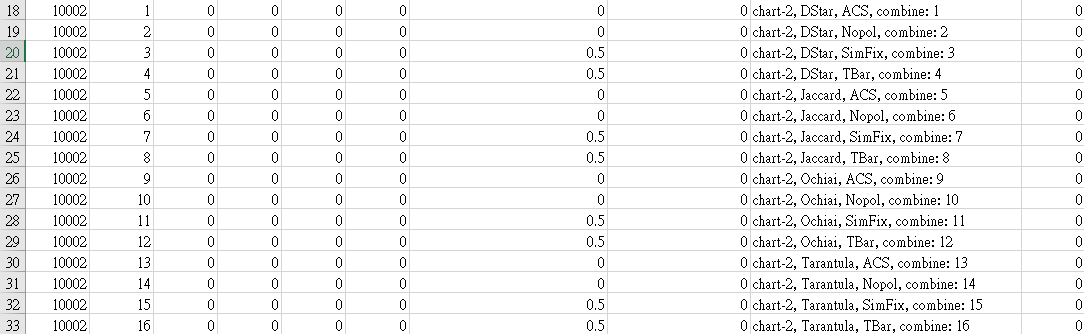


而Chart-2的結果，沒有產生正確patch，而是只有產生plausible patch

這些plausible patch的可能性分數也是比起Chart-2有correct patch的來說要更低，很合理。

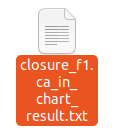
而完全沒有的分數是0。





證明closure的結果應用在chart的結果是合理的。

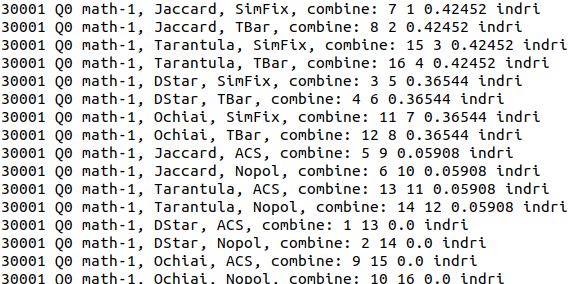
儲存的結果是這個檔案



將模型應用在math上面

java -jar RankLib-2.18.jar -load no\_Closure\_result\_ca\_0.8/f1.ca -rank normalize/SBFL\_math.txt -indri closure\_f1.ca\_in\_math\_result.txt

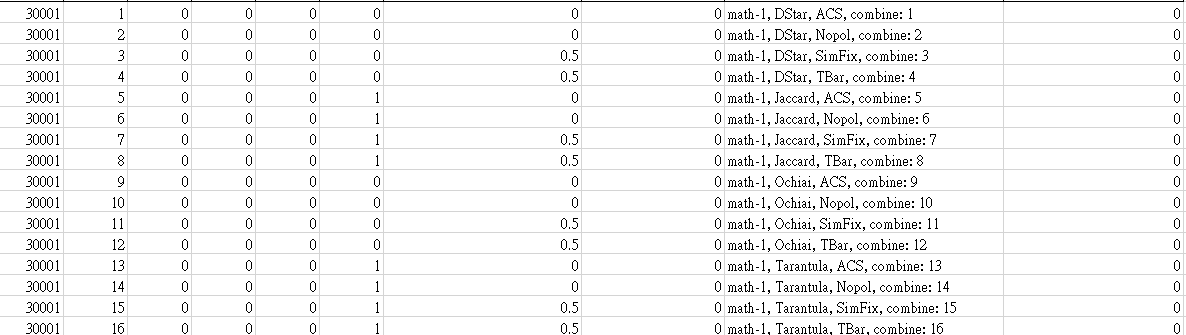
得出的結果如下



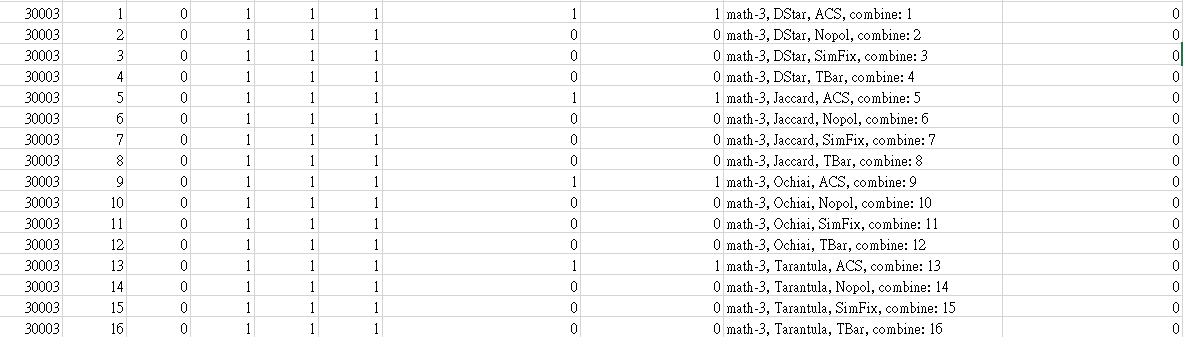
根據表格來看

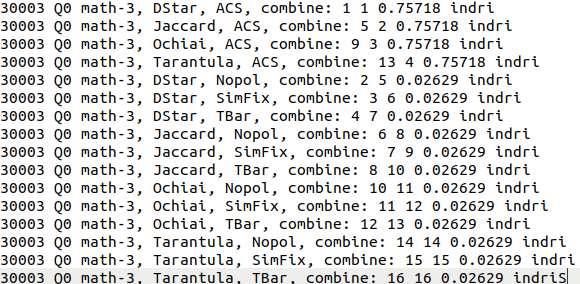
確實有將相對較好的有在top-10找到以及有生成patch但不正確的的7 8 15 16這幾種情況排在前面。

並且將有生成patch但不正確的3 4 11 12排在第二順序，最後是有在top-10找到但是沒有生成任何patch排在第三順序，最後才是沒有任何的定位以及任何的patch產生排在最後的優先序。



而以math-3來說，確實有找出1 5 9 13這幾個結果。



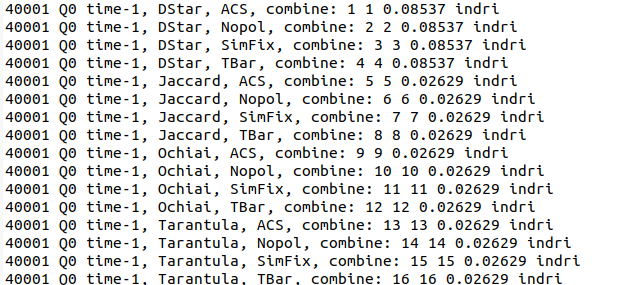


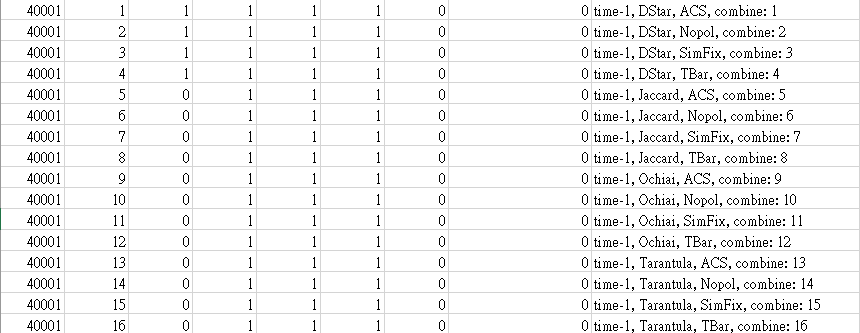
結果表明，這個結果也是合理的。

將模型應用在time上面

java -jar RankLib-2.18.jar -load no\_Closure\_result\_ca\_0.8/f1.ca -rank normalize/SBFL\_time.txt -indri closure\_f1.ca\_in\_time\_result.txt

結果也是符合



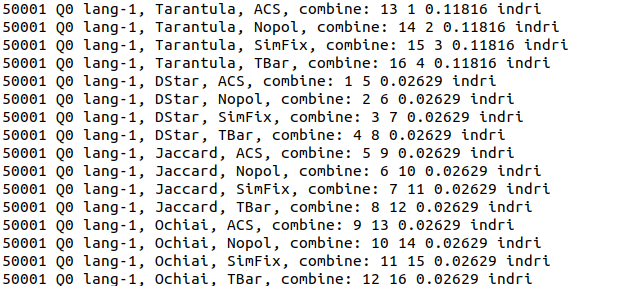
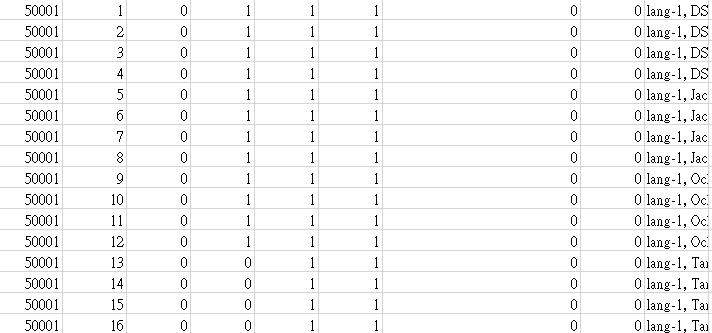


將模型應用在lang上面

java -jar RankLib-2.18.jar -load no\_Closure\_result\_ca\_0.8/f1.ca -rank normalize/SBFL\_lang.txt -indri closure\_f1.ca\_in\_lang\_result.txt

這邊遇到問題了

應該是要1~12比較好，但是套用模型得出的結果反而是13~16比較好。

改成用f2.ca

java -jar RankLib-2.18.jar -load no\_Closure\_result\_ca\_0.8/f2.ca -rank normalize/SBFL\_lang.txt -indri closure\_f2.ca\_in\_lang\_result.txt

結果一樣

改成用f3.ca

java -jar RankLib-2.18.jar -load no\_Closure\_result\_ca\_0.8/f3.ca -rank normalize/SBFL\_lang.txt -indri closure\_f3.ca\_in\_lang\_result.txt

結果就有符合了

但是出現負值不懂

可能f1的結果還是不太好，改成f3的結夥來論會好一點。

Closure的結果先這樣收尾。