Entity Analysis

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In this document presents, Dbpedia and 3cixty classs entity analysis. In the 3cixty KB we use two classes and in the case of DBpedia we use 10 classes. Quality Dimensions are: Persistency and Stability.

Persistency (Entity Level)

Persistency of a Class= 1 if, on the time series(i=1...n), En > (En-1) else Persistency = 0. Where En is the distinct entity of a class.

Time Series Persistency (Entity Level)

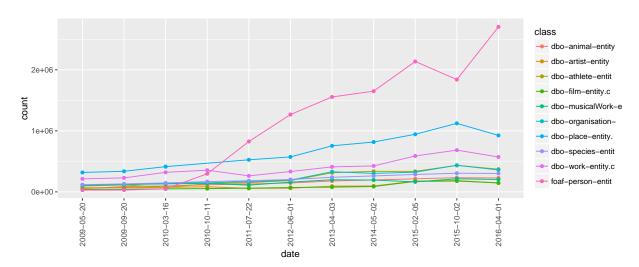
Stability (Entity Level)

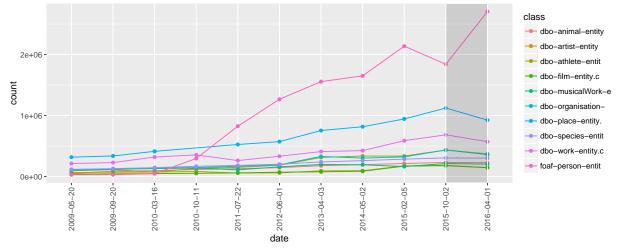
First, we apply a Linear regression over the time series (i=1...n).

From the linear regression, We calculate the normalize distance.

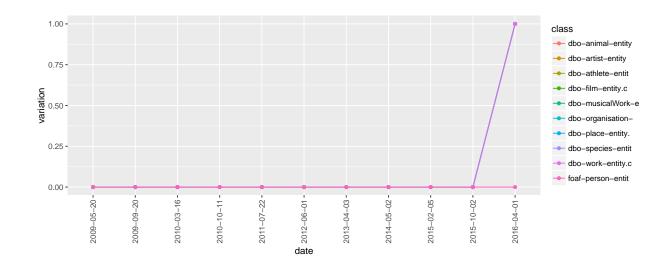
The normalized distance(ND) = (abs(Last TimeSeries Entity Count - Predicted Value)/mean(abs(Residuals)) So, Stability is 1 if ND<1 or Stability is 0 if ND>=1

Time Series Stability (Entity Level)



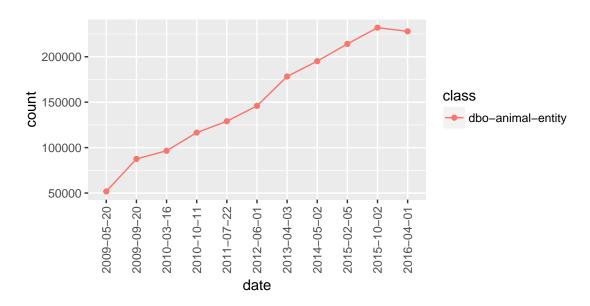


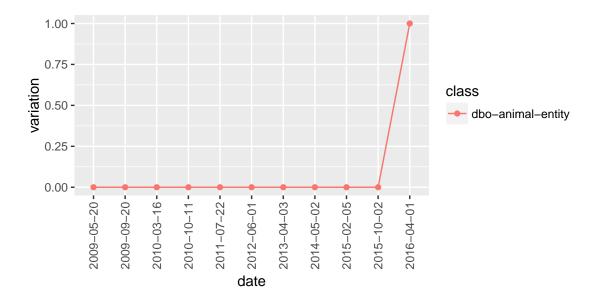
```
data=histPerAll(data)
p<-plotPerAll(data)
p</pre>
```



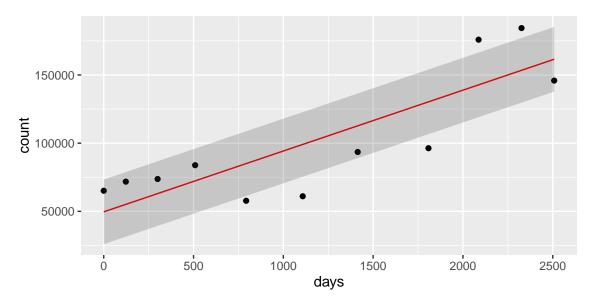
Entity Level

Class: dbo-animal





In dbo-animal, Version2016-04 Entity Count=227963 < Version2015-10 Entitt Count=232019 Persistency=0

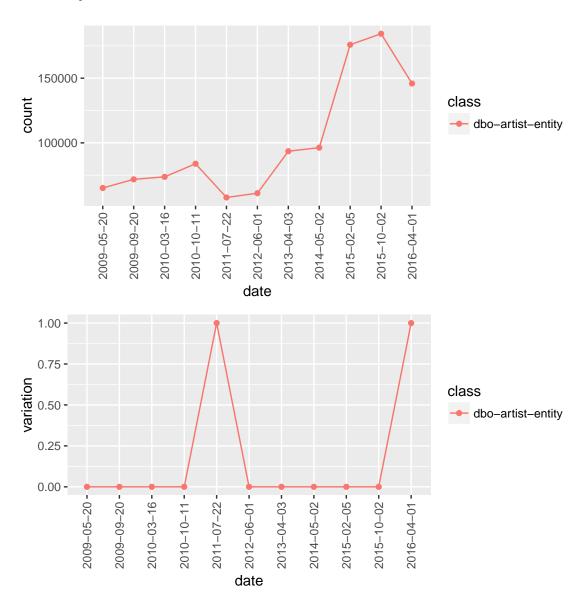


The normalized distance (ND)=(abs(Last TimeSeries Value - Predicted Value)/mean (abs(Residuals))= 0.6604644

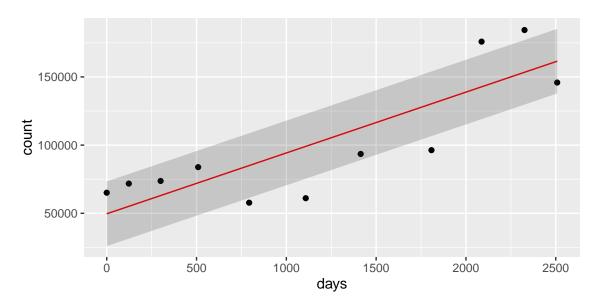
Stability is 1 if ND<1 or Stability is 0 if ND>=1

Class: dbo-artist

Persistency



In dbo-artist, Version2016-04 Entity Count=145879 < Version2015-10 Entitt Count=184371 Persistency=0

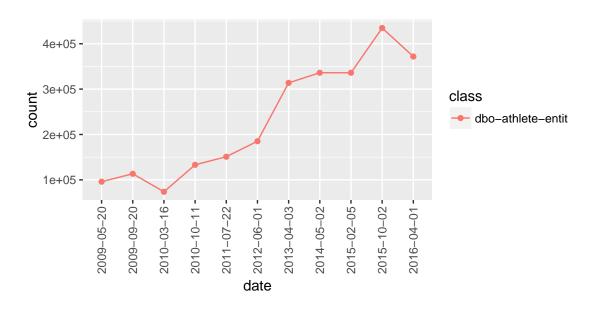


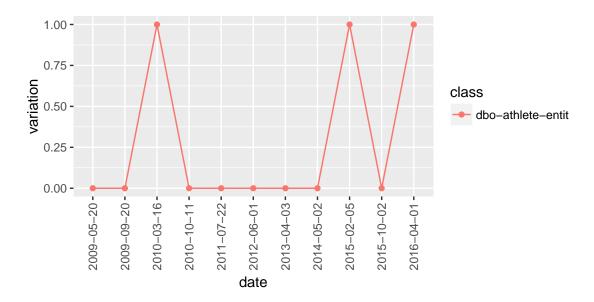
The normalized distance (ND)=(abs(Last TimeSeries Value - Predicted Value)/mean (abs(Residuals))= 0.6604644

Stability is 1 if ND<1 or Stability is 0 if ND>=1

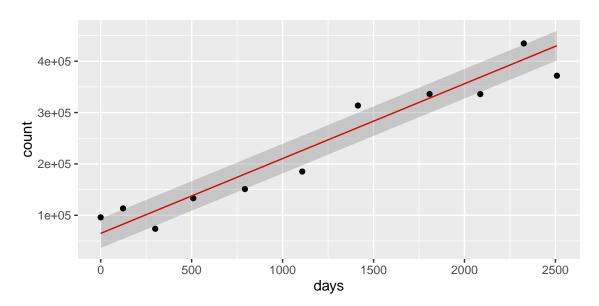
Stability=1

Class: dbo-athlete





In dbo-artist, Version2016-04 Entity Count=371804 < Version2015-10 Entitt Count=434609 Persistency=0

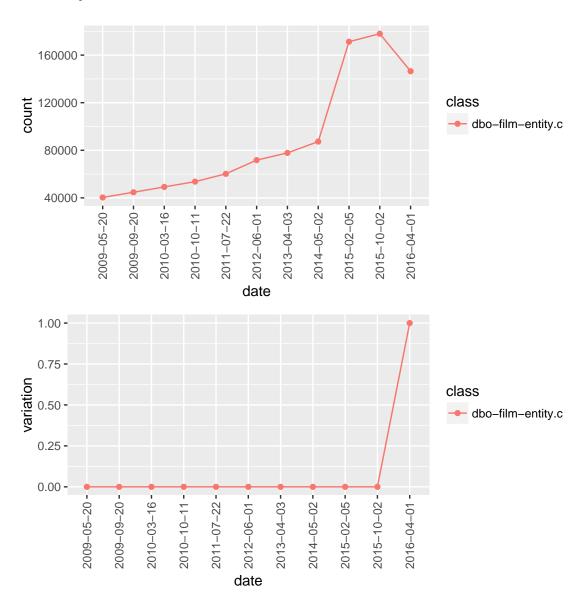


The normalized distance (ND)=(abs(Last TimeSeries Value - Predicted Value)/mean (abs(Residuals))= 2.0316388

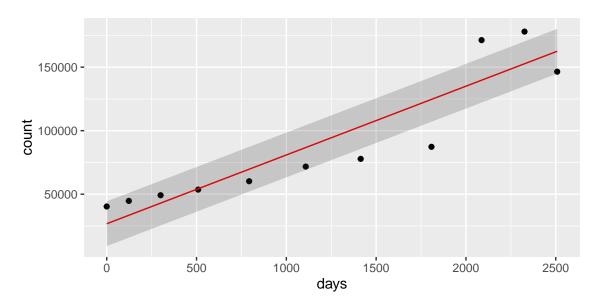
Stability is 1 if ND<1 or Stability is 0 if ND>=1

Class: dbo-film

Persistency



In dbo-artist, Version 2016-04 Entity Count=146449 < Version 2015-10 Entitt Count=177989 Persistency=0

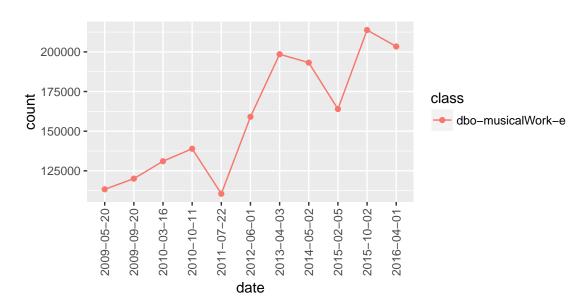


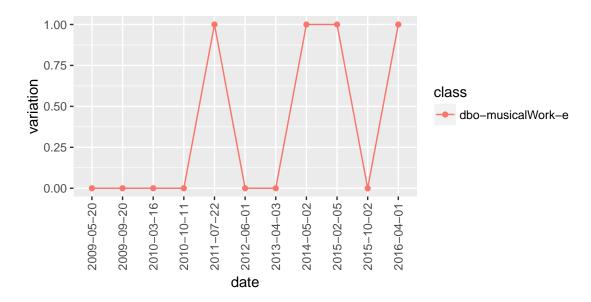
The normalized distance (ND)=(abs(Last TimeSeries Value - Predicted Value)/mean (abs(Residuals))= 0.9129531

Stability is 1 if ND<1 or Stability is 0 if ND>=1

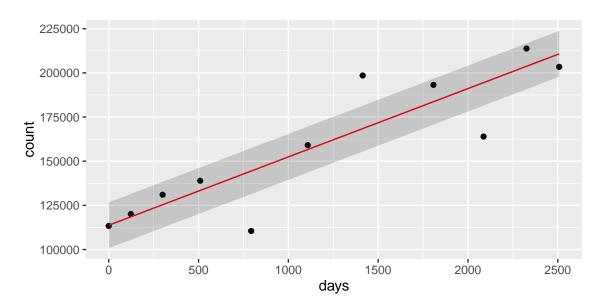
Stability=1

Class: dbo-musicalWork





In dbo-artist, Version2016-04 Entity Count=146449 < Version2015-10 Entitt Count=177989 Persistency=0

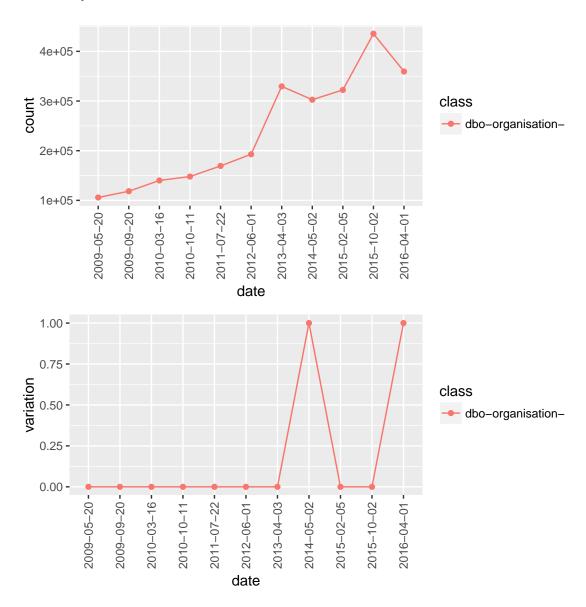


The normalized distance (ND)=(abs(Last TimeSeries Value - Predicted Value)/mean (abs(Residuals))= 0.5677868

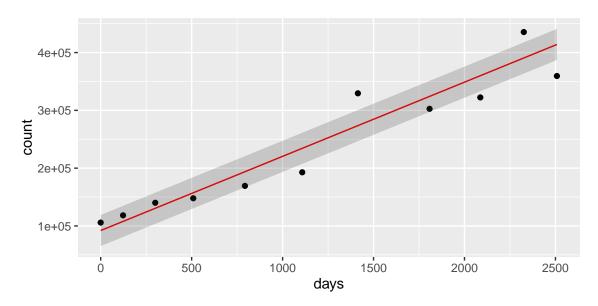
Stability is 1 if ND<1 or Stability is 0 if ND>=1

Class: dbo-organisation

Persistency



In dbo-artist, Version 2016-04 Entity Count=359462 < Version 2015-10 Entitt Count=435522 Persistency=0

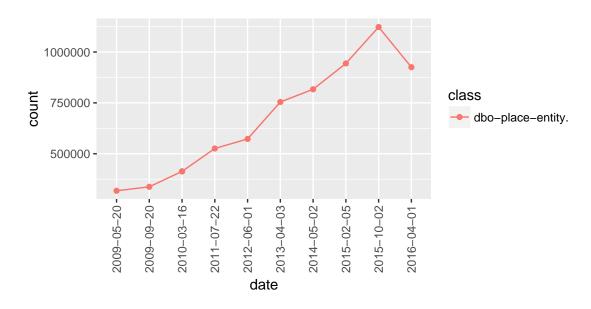


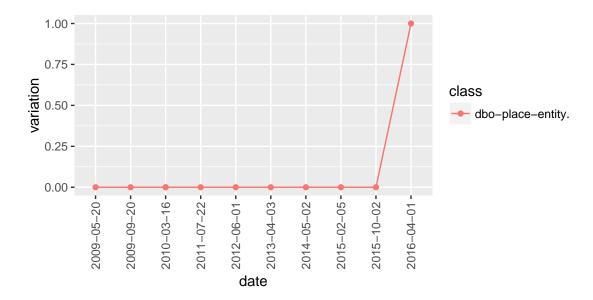
The normalized distance (ND)=(abs(Last TimeSeries Value - Predicted Value)/mean (abs(Residuals))= 2.0270691

Stability is 1 if ND<1 or Stability is 0 if ND>=1

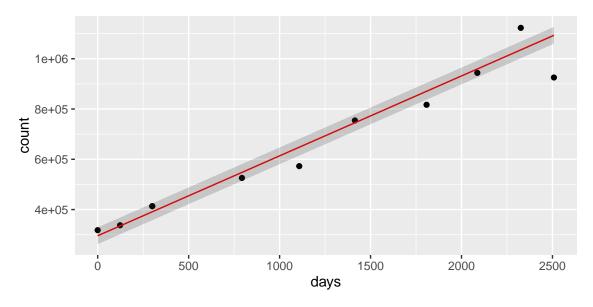
 $Stability {=} 0$

Class: dbo-place





In dbo-artist, Version 2016-04 Entity Count=925383 < Version 2015-10 Entitt Count=1122785 Persistency=0

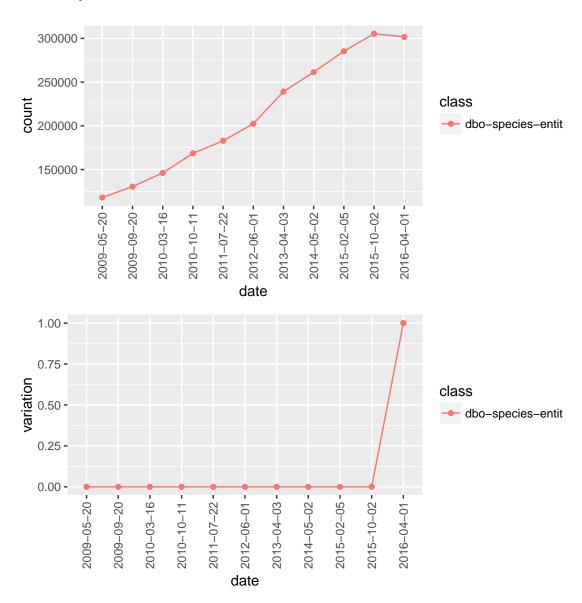


The normalized distance (ND)=(abs(Last TimeSeries Value - Predicted Value)/mean (abs(Residuals))= 5.0381527

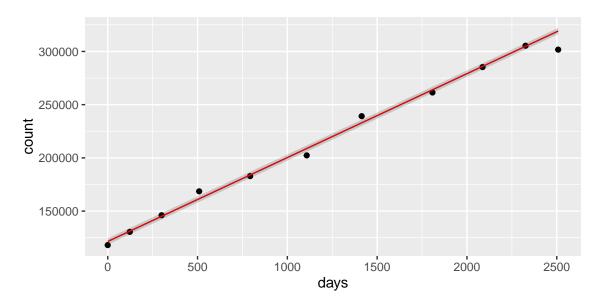
Stability is 1 if ND<1 or Stability is 0 if ND>=1

Class: dbo-species

Persistency



In dbo-artist, Version 2016-04 Entity Count=925383 < Version 2015-10 Entitt Count=1122785 Persistency=0

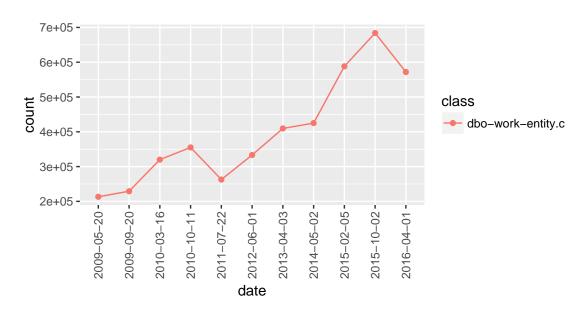


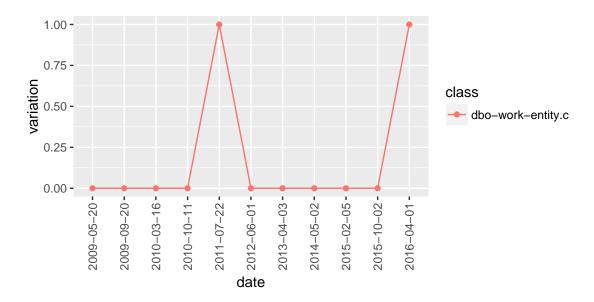
The normalized distance (ND)=(abs(Last TimeSeries Value - Predicted Value)/mean (abs(Residuals))= 5.8781797

Stability is 1 if ND<1 or Stability is 0 if ND>=1

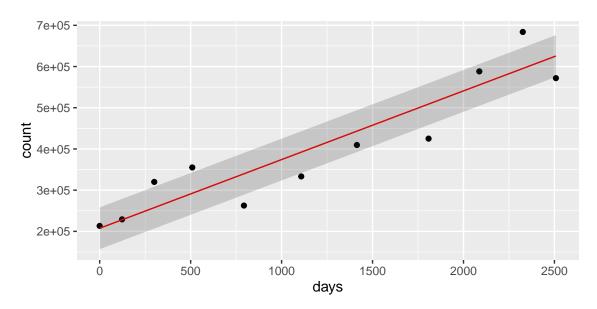
Stability=0

Class: dbo-work





In dbo-artist, Version 2016-04 Entity Count=571847 < Version 2015-10 Entit
t Count=683923 Persistency=0

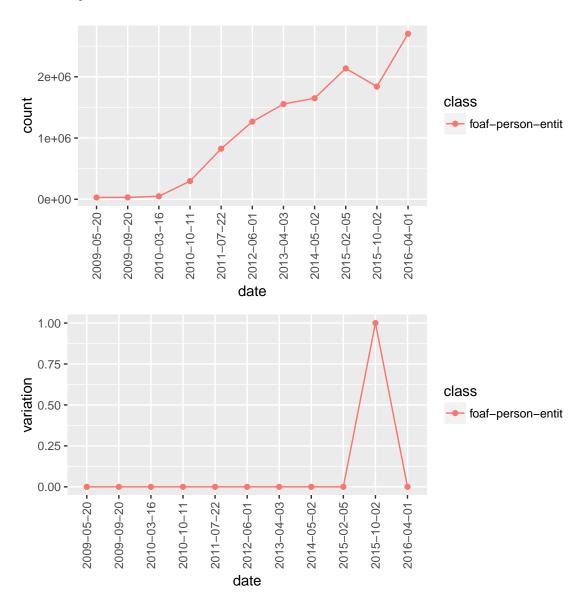


The normalized distance (ND)=(abs(Last TimeSeries Value - Predicted Value)/mean (abs(Residuals))= 1.0595095

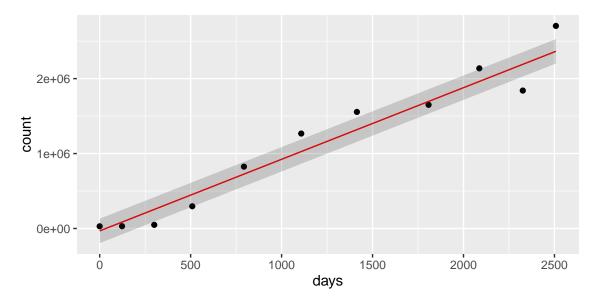
Stability is 1 if ND<1 or Stability is 0 if ND>=1

Class: dbo-person

Persistency



In dbo-artist, Version 2016-04 Entity Count=2703493 < Version 2015-10 Entitt Count=1840598 Persistency=1



The normalized distance (ND)=(abs(Last TimeSeries Value - Predicted Value)/mean (abs(Residuals))= 2.0835572

Stability is 1 if ND<1 or Stability is 0 if ND>=1

Stability=0

Predicate Level

Class: dbo-animal

DataSet overview:

No. of property with all zeros on all versions = 4262

No. of property with Non zeros on all versions = 214

Completeness

No. of inconsistant property =48

Consistency = 77.5700935

List of inconsistant property

property	Version201604	Version201510	NormFreqDiff
http://dbpedia.org/ontology/abstract	0.4225861	0.9653649	-0.5427788
http://dbpedia.org/ontology/award	0.0000000	0.0086027	-0.0086027
http://dbpedia.org/ontology/binomialAuthority	0.1199668	0.2677022	-0.1477354
http://dbpedia.org/ontology/birthDate	0.0000000	0.0002370	-0.0002370
http://dbpedia.org/ontology/birthPlace	0.0000000	0.0001595	-0.0001595
http://dbpedia.org/ontology/birthYear	0.0000000	0.0002327	-0.0002327
http://dbpedia.org/ontology/breeder	0.0000000	0.0076675	-0.0076675

property	Version201604	Version201510	NormFreqDiff
http://dbpedia.org/ontology/class	0.4532314	0.9698344	-0.5166029
http://dbpedia.org/ontology/colour	0.0000000	0.0149643	-0.0149643
http://dbpedia.org/ontology/colourName	0.0000000	0.0003707	-0.0003707
http://dbpedia.org/ontology/conservationStatus	0.1364914	0.1507075	-0.0142160
http:	0.1291876	0.1462941	-0.0171064
//dbpedia.org/ontology/conservationStatusSystem			
http://dbpedia.org/ontology/country	0.0000000	0.0112577	-0.0112577
http://dbpedia.org/ontology/dam	0.0000000	0.0019395	-0.0019395
http://dbpedia.org/ontology/damsire	0.0000000	0.0098052	-0.0098052
http://dbpedia.org/ontology/deathDate	0.0000000	0.0001810	-0.0001810
http://dbpedia.org/ontology/deathPlace	0.0000000	0.0001077	-0.0001077
http://dbpedia.org/ontology/deathYear	0.0000000	0.0001810	-0.0001810
http://dbpedia.org/ontology/division	0.0006492	0.0014826	-0.0008334
http://dbpedia.org/ontology/domain	0.0008291	0.0027067	-0.0018776
http://dbpedia.org/ontology/family	0.6592912	1.2184519	-0.5591607
http://dbpedia.org/ontology/foalDate	0.0000000	0.0043143	-0.0043143
http://dbpedia.org/ontology/genus	0.2345907	0.6927795	-0.4581888
http://dbpedia.org/ontology/grandsire	0.0000000	0.0128352	-0.0128352
http://dbpedia.org/ontology/honours	0.0000000	0.0045729	-0.0045729
http://dbpedia.org/ontology/jockey	0.0000000	0.0003405	-0.0003405
http://dbpedia.org/ontology/kingdom	0.4268719	0.9340701	-0.5071981
http://dbpedia.org/ontology/location	0.0000000	0.0001077	-0.0001077
http://dbpedia.org/ontology/order	0.4754368	0.9943841	-0.5189473
http://dbpedia.org/ontology/owner	0.0000000	0.0109301	-0.0109301
http://dbpedia.org/ontology/phylum	0.4560521	0.9786052	-0.5225531
http://dbpedia.org/ontology/race	0.0000000	0.0702184	-0.0702184
http://dbpedia.org/ontology/sex	0.0000000	0.0158996	-0.0158996
http://dbpedia.org/ontology/sire	0.0000000	0.0122059	-0.0122059
http://dbpedia.org/ontology/soundRecording	0.0000000	0.0013318	-0.0013318
http://dbpedia.org/ontology/species	0.0048253	0.0069046	-0.0020793
http://dbpedia.org/ontology/synonym	0.1241956	0.7066835	-0.5824879
http://dbpedia.org/ontology/thumbnail	0.1211990 0.1333945	0.2890237	-0.1556293
http://dbpedia.org/ontology/trainer	0.0000000	0.0143997	-0.0143997
http:	0.0000000	0.0002112	-0.0002112
//dbpedia.org/ontology/wikiPageDisambiguates	0.000000	0.0002112	0.0002112
http://dbpedia.org/ontology/wikiPageExternalLink	0.0000000	0.5888009	-0.5888009
http://dbpedia.org/ontology/wikiPageID	0.0000000	0.9661321	-0.9661321
http://dbpedia.org/ontology/wikiPageLength	0.0000000	0.9661321	-0.9661321
http://dbpedia.org/ontology/wikiPageOutDegree	0.0000000	0.9661321	-0.9661321
http://dbpedia.org/ontology/wikiPageRedirects	0.0000000	0.0002543	-0.0002543
http://dbpedia.org/ontology/wikiPageRevisionID	0.0000000	0.9661321	-0.9661321
http://dbpedia.org/ontology/wikiPageWikiLink	0.0000000	21.3997604	-21.3997604
http://dbpedia.org/ontology/wikiPageWikiLinkText	0.0000000	1.3312574	-1.3312574
ntop.//dopedia.org/ontology/wikii agewikiLilik text	0.0000000	1.0012074	-1.0014074