**QUERY 1 LUCENE TOP 5**

1 Q0 Globalwarming 1 0.28316268 Lucene

1 Q0 Energyconsumption 2 0.19793966 Lucene

1 Q0 Environmentalimpactoftheenergyindustry 3 0.18754622 Lucene

1 Q0 Climatechange 4 0.1793558 Lucene

1 Q0 UnitedNationsFrameworkConventiononClimateChange 5 0.17683285 Lucene

**QUERY 1 BM25 TOP 5**

1 Q0 Globalwarming 1 3.31123688775 BM25\_sas

1 Q0 Climatechangemitigation 2 3.1916102332 BM25\_sas

1 Q0 Naturalenvironment 3 3.16328613675 BM25\_sas

1 Q0 UnitedNationsFrameworkConventiononClimateChange 4 3.162197 BM25\_sas

1 Q0 Greenhousegas 5 3.15231866154 BM25\_sas

As we can see the top result is Globalwarming for both lucene and Bm25 and since the search query is global warming potential, It is quite explainable that the retrieved file is a correct match.

In the remaining documents however the only common result is UnitedNationsFrameworkConventiononClimateChange which appeared 5th and 4th respectively in lucene and BM25 retrivals. However if extend our search in top10 we could see that all the top 5 documents retrieved from both LUCENE and BM25 are present in each others top10 list respectively which indicates both the model’s results overlap very much.

**QUERY 2 LUCENE TOP 5**

2 Q0 Renewableenergypayments 1 0.41643205 Lucene

2 Q0 3Degrees 2 0.38089895 Lucene

2 Q0 RenewableenergyintheCzechRepublic 3 0.34812713 Lucene

2 Q0 RenewableenergyinMexico 4 0.34801793 Lucene

2 Q0 WorldEnergyEngineeringCongress 5 0.34045655 Lucene

**QUERY 2 BM25 TOP 5**

2 Q0 Greenpaper 1 0.637958083341 BM25\_sas

2 Q0 RockinghamMotorSpeedway 2 0.582162728685 BM25\_sas

2 Q0 Urbanhorticulture 3 0.575405828391 BM25\_sas

2 Q0 Animalwaste 4 0.574175863766 BM25\_sas

2 Q0 NewUrbanism 5 0.540605200754 BM25\_sas

There is no document in common these differences are because of the way Lucene and BM25 calculate and score of the documents. The normalization done in Bm25 and Lucene is different.

**QUERY 3LUCENE TOP 5**

3 Q0 NevadaSolarOne 1 0.32284185 Lucene

3 Q0 SolarDecathlon 2 0.2881678 Lucene

3 Q0 California 3 0.28521225 Lucene

3 Q0 SolarEnergyGeneratingSystems 4 0.27970892 Lucene

3 Q0 Solarthermal 5 0.27574673 Lucene

**QUERY 3 BM25 TOP 5**

3 Q0 KernCounty,California 1 2.18302358151 BM25\_sas

3 Q0 Camarillo,California 2 2.16364679329 BM25\_sas

3 Q0 LosAngeles 3 2.15298669155 BM25\_sas

3 Q0 Exhaustgas 4 1.90306719187 BM25\_sas

3 Q0 Dwelling 5 1.84084054576 BM25\_sas

3 Q0 NewUrbanism 6 1.83136127377 BM25\_sas

There is no document in common these differences are because of the way Lucene and BM25 calculate and score of the documents. The normalization done in Bm25 and Lucene is different.

**QUERY 4LUCENE TOP 5**

4 Q0 Phaseoutofincandescentlightbulbs 1 0.62234 Lucene

4 Q0 Incandescentlightbulbs 2 0.39739558 Lucene

4 Q0 Incandescentlightbulb 3 0.39626512 Lucene

4 Q0 Energysavinglamp 4 0.33032092 Lucene

4 Q0 Energyconservation 5 0.2227041 Lucene

**QUERY 4 BM25 TOP 5**

4 Q0 Phaseoutofincandescentlightbulbs 1 18.5603097468 BM25\_sas

4 Q0 Incandescentlightbulbs 2 16.2530543906 BM25\_sas

4 Q0 Incandescentlightbulb 3 16.2507117523 BM25\_sas

4 Q0 Energyconservation 4 14.3493995681 BM25\_sas

4 Q0 Compactfluorescentlamp 5 13.9352705467 BM25\_sas

We could see that all the top 5 documents retrieved from both LUCENE and BM25 are present in each others top10 list respectively which indicates both the model’s results overlap very much.