

CSCI572 Homework 4 Report (Newsday)

Steps you followed to complete this assignment. Include the details of what tools you used to compute PageRank. Make sure to include details of initial configuration of PageRank algorithm you used (ex: alpha value, max number of iterations etc.). Should contain a minimum of 300 words.

1. Installing and Using Solr

- First I installed Solr and started the server using `bin/solr start`
- Then I created the core "myexample" with the command `"bin/solr create -c myexample"`
- Prior to indexing the files, I had to download the data for Newsday from google drive. Also I made edits to the "managed-schema" file in order to make sure the pages are extracted and mapped correctly by Tika.
- Then I indexed the files with `"bin/post -c myexample -filetypes html /Users/TerryChiang/Desktop/Sites/solr-7.2.1/Newsday/HTML_Files/"`
- After indexing, I changed the `solrconfig.xml` file in order for us to query using the hidden field `"_text_"`
- Finally, I reloaded the core on the in order to reflect the changes in the xml files

2. Creating a UI to connect to Solr

- Using the given PHP code in the homework assignment, I was able to create a simple UI to connect to Solr. I modified the code to have an option to choose between Solr and PageRank results.
- The PHP code displays title, url, id, and description

3. Calculating PageRank

- Before being able to use PageRank scores in my UI, I first had to calculate them.
- The first step was to create the `edgeList.txt` file that contains links connecting to other links if such a connection existed. I did this in my `extractLinks.java` file, which utilized Jsoup.
- Once `edgeList.txt` was created, I then calculated the PageRank scores in a python script named `pagerank.py`.
- My python script read in the `edgeList.txt` file by using `networkx`. The particular line used was `"pagerank = nx.pagerank(G, alpha=0.85, personalization=None, max_iter=30, tol=1e-06, nstart=None, weight='weight',dangling=None)"`
- The script then output a file called `external_pageRankFile.txt`, which contained the PageRank scores. The file was then placed inside the data folder of the myexample core.

4. Updating xml files

- One of the final steps is to add in a couple lines to the managed-schema file in order for it to reference the PageRank scores.
- Lastly, I added a couple lines to the solrconfig.xml file in order for the index to access the external PageRank file.

5. Conclusion

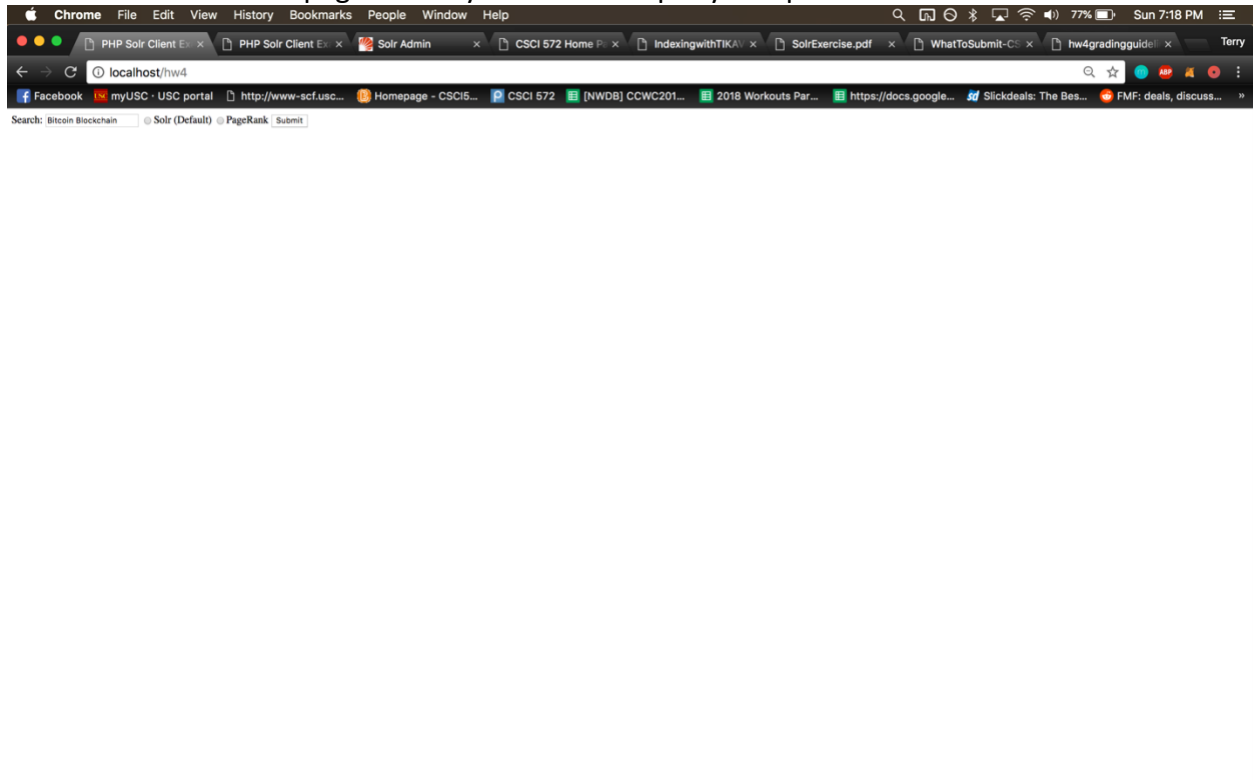
- All the steps are complete and the UI should be able to accept queries and return results for both sorting algorithms.

Explanation regarding why some pages have higher PageRank values than others. (One paragraph).

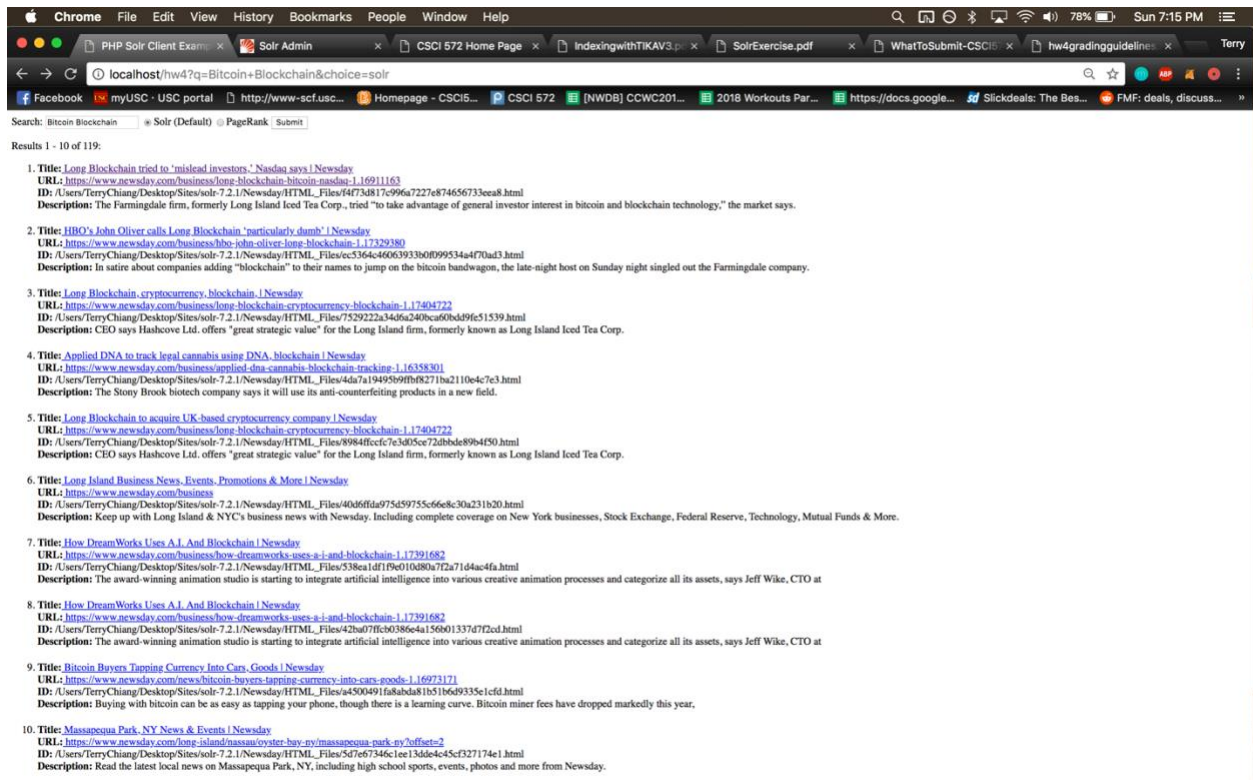
- PageRank is calculated through the number of links pointing to it. The pages that have many links that point to it will receive a higher PageRank value than a page with less links pointing to it. In this assignment we created the edgeList.txt in order to calculate the number of edges for each page prior to calculating PageRank.

Document the flow for any single query using screenshots: (Screenshot should contain first 10 results for the Lucene and PageRank)

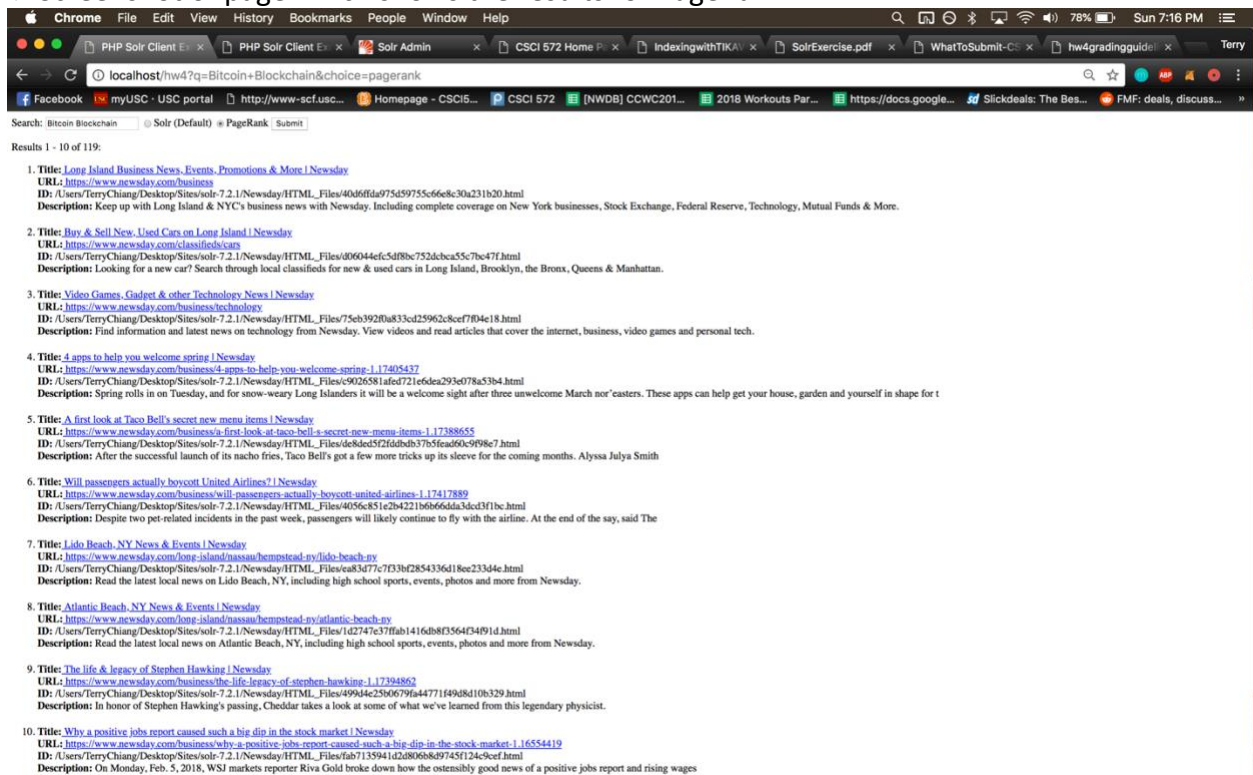
✓ Screenshot of initial page where you enter the query in input box.



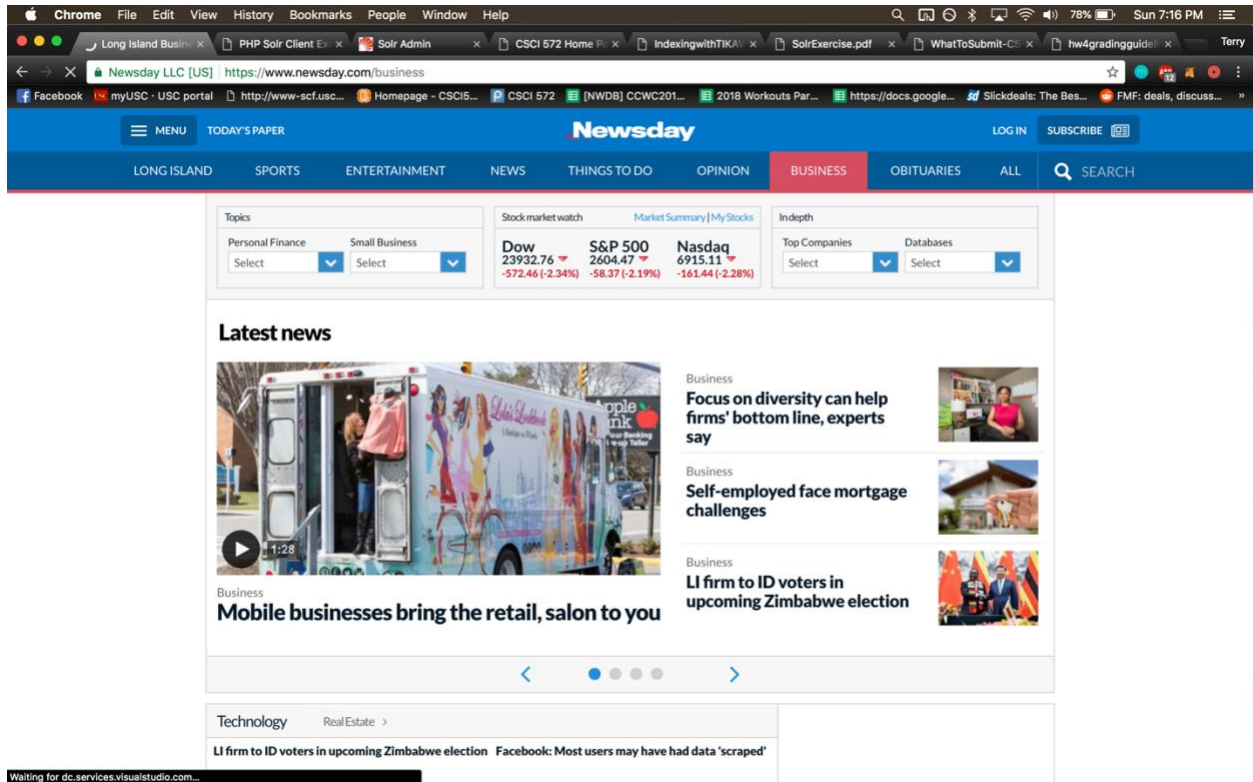
✓ Screenshot of page which shows the results for Lucene(Default).



✓ Screenshot of page which shows the results for PageRank.



✓ Screenshot of the actual webpage that opens when clicking on one of the result's link.



Top Ten Results per Query

1. Bitcoin Blockchain

Solr ID	Solr URL	PageRank ID	PageRank URL
1 f4f73d817c996a7227e874656733eea8.html	https://www.newsday.com/business/long-blockchain-bitcoin-nasdaq-1.16911163	40d6ffda975d59755c66e8c30a231b20.html	https://www.newsday.com/business
2 ec5364c46063933b0f099534a4f70ad3.html	https://www.newsday.com/business/hbo-john-oliver-long-blockchain-1.17329380	d06044efc5dbf8bc752dcbca55c7bc47f.html	https://www.newsday.com/classifieds/cars
3 7529222a34d6a240bca60bdd9fe51539.html	https://www.newsday.com/business/long-blockchain-cryptocurrency-blockchain-1.17404722	75eb392f0a833cd25962c8cef7f04e18.html	https://www.newsday.com/business/technology
4 4da7a19495b9ffbf8271ba2110e4c7e3.html	https://www.newsday.com/business/applied-dna-cannabis-blockchain-tracking-1.16358301	c9026581afed721e6dea293e078a53b4.html	https://www.newsday.com/business/4-apps-to-help-you-welcome-spring-1.17405437
5 8984ffccf7e3d05ce72dbbde89b4f50.html	https://www.newsday.com/business/long-blockchain-cryptocurrency-blockchain-1.17404722	de8ded5f2fdddb37b5fead60c9f98e7.html	https://www.newsday.com/business/a-first-look-at-taco-bell-s-secret-new-menu-items-1.17388655
6 40d6ffda975d59755c66e8c30a231b20.html	https://www.newsday.com/business	4056c851e2b4221b6b66dda3dcd3f1bc.html	https://www.newsday.com/business/will-passengers-actually-boycott-united-airlines-1.17417889
7 538ea1df1f9e010d80a7f2a71da4c4fa.html	https://www.newsday.com/business/how-dreamworks-uses-a-i-and-blockchain-1.17391682	ea83d77c7f33bf2854336d18ee233d4e.html	https://www.newsday.com/long-island/nassau/hempstead-ny/lido-beach-ny
8 42ba07ffc0386e4a156b01337d7f2cd.html	https://www.newsday.com/business/how-dreamworks-uses-a-i-and-blockchain-1.17391682	1d274e37ffab1416db8f3564f34f91d.html	https://www.newsday.com/long-island/nassau/hempstead-ny/atlantic-beach-ny
9 a4500491fa8abda81b51b6d9335e1cfd.html	https://www.newsday.com/news/bitcoin-buyers-tapping-currency-into-cars-goods-1.16973171	499d4e25b0679fa44771f49d8d10b329.html	https://www.newsday.com/business/the-life-legacy-of-stephen-hawking-1.17394862
10 5d7e67346c1ee13dde4c45f327174e1.html	https://www.newsday.com/long-island/nassau/oyster-bay-ny/massapectua-park-ny?offset=2	fab7135941d2d806b8d9745f124c9cef.html	https://www.newsday.com/business/why-a-positive-jobs-report-caused-such-a-big-dip-in-the-stock-market-1.16554419

2. Stephen Hawking

Solr ID	Solr URL	PageRank ID	PageRank URL
1 54927e7941e8404123838ddca2075ce8.html	https://www.newsday.com/news/world/physicist-stephen-hawking-dies-at-age-76-1.17381457	5bf1ce773d32eb94b123f952b922d992.html	https://www.newsday.com/entertainment
2 31b820e0eb875db93bffa4ae799856c3.html	https://www.newsday.com/entertainment/tv/stephen-hawking-tv-roles-1.17384428	40d6ffda975d59755c66e8c30a231b20.html	https://www.newsday.com/business
3 f5ae554f07ead15d4274b2a48bc31722.html	https://www.newsday.com/news/world/theoretical-physicist-stephen-hawking-has-died-at-76-1.17380191	261dbb56ccff1929ee407e304b34585a.html	https://www.newsday.com/opinion
4 cd2c3ec304b2362a337dffa4713a6247.html	https://www.newsday.com/news/world/theoretical-physicist-stephen-hawking-dies-at-76-1.17380408	114bf516e02601968da6b2d48b7a9f2a.html	https://www.newsday.com/news/nation
5 136fb76c04067d2355f56913407d271a.html	https://www.newsday.com/business/the-life-legacy-of-stephen-hawking-1.17394862	db4ae51903ed5d1396b86cf8d9dcf511.html	https://www.newsday.com/entertainment/music
6 2db4eac3da67e3e90fc6856a6cfb0831.html	https://www.newsday.com/opinion/editorial/stephen-hawking-death-1.17387052	e002e6651e4c6e8aed6c06f597f93534.html	https://www.newsday.com/entertainment/celebrities
7 b0a36762c353b41e9c675893e52218f3.html	https://www.newsday.com/news/world/theoretical-physicist-stephen-hawking-has-died-at-76-1.17380191	f6f61b45db1ed0b98c746baca61ff5eb.html	https://www.newsday.com/entertainment/movies
8 176515c3756f0e13ee4d5d04f6bdc3a7.html	https://www.newsday.com/news/world/stephen-hawking-dead-1.17380130	099f2c5ddf7652eb721c9b0871da47ec.html	https://www.newsday.com/entertainment/tv
9 de056a992453a77d3d8e80592d5da446.html	https://www.newsday.com/entertainment/tv/stephen-hawking-tv-roles-1.17384428	75eb392f0a833cd25962c8cef7f04e18.html	https://www.newsday.com/business/technology
10 5373d73bfe675a06af84262bbd2ca1d0.html	https://www.newsday.com/news/world/theoretical-physicist-stephen-hawking-dies-at-76-1.17380408	9e83d3f5307190f0a826708e279b2d5e.html	https://www.newsday.com/entertainment/books

3. Falcon Heavy

Solr ID	Solr URL	PageRank ID	PageRank URL
1 0151ed6b210f191af42134378fb0348.html	https://www.newsday.com/opinion/columnists/michael-dobie/elon-musk-spacex-1.16670802	4711b0a2c88747a984bb5f32316c1ee9.html	https://www.newsday.com/long-island/education/school-by-school-spending-rule-1.17484061
2 96a019e2235998490483b64111eec4e.html	https://www.newsday.com/opinion/columnists/michael-dobie/elon-musk-spacex-1.16670802	ad548210f54b4a2205cfed762e1d276.html	https://www.newsday.com/lifestyle/restaurants/perennial-review-garden-city-1.17402910
3 1dba68d65e51167d4e1844f3bf0f63682.html	https://www.newsday.com/long-island/towns/freshmen-win-louist-valley-high-school-float-contest-at-homecoming-parade-1.6329245	0a5ca5c3e9d8c58729423b363d6d7c79.html	https://www.newsday.com/sports/basketball/knicks/knicks-young-players-going-all-out-for-wins-1.17488993
4 13439639faba7635d80a8ea6e844cc60.html	https://www.newsday.com/entertainment/movies/tomb-raider-review-1.17387308	f0dc0fdcd23974f71f919396a4f5825a6.html	https://www.newsday.com/sports/football/jets/jets-deal-with-colts-to-get-no-3-pick-1.17448060
5 5f0f4953dab32a5d7413dafbcb660445.html	https://www.newsday.com/business/air-industries-sells-its-amk-subsiidiary-for-up-to-6-million-1.13039083	d4f8c8f7350d353b53e371e9ffb4c525.html	https://www.newsday.com/lifestyle/restaurants/feed-me/global-buffet-levittown-all-you-can-eat-1.17463506
6 d1e8cb00842431ea291d5a5c83c1ad.html	https://www.newsday.com/entertainment/tv/wet-hot-american-summer-prequel-on-netflix-funnier-than-the-movie-1.10689017	a36ffid1716277444e7e894e4b61d05de.html	https://www.newsday.com/entertainment/music/my-fathers-place-concerts-1.17424391
7 b6d11da127f433ac061ced39d8cbe49.html	https://www.newsday.com/entertainment/movies/tomb-raider-review-1.17387308	c697a96dca52a892b1dc9cd0b4150e1.html	https://www.newsday.com/sports/columnists/bob-glauber/nfl-free-agency-1.17433781
8 e93576051c293745150e164ec53358f5.html	https://www.newsday.com/entertainment/celebrities/notable-long-islanders-1.2342650	37cc44bae41d9b33fbf1acdd5f83248.html	https://www.newsday.com/lifestyle/restaurants/long-island-cheap-eats-restaurants-reviews-1.4445645
9 59a6719f1b2091604b8cda161cac6551.html	https://www.newsday.com/long-island/suffolk/centerport-house-fire-power-line-1.17205951	b8df833c3105a8dfc33580c341ff1f15.html	https://www.newsday.com/news/world/column-another-victim-of-russian-doping-bites-the-dust-1.17498449
10 hafad2bfff45f262b06c595e2b785c32.html	https://www.newsday.com/lifestyle/home-and-garden/pantone-ultra-violet-home-1.16058724	ac744660e5d92f04ec754cc40144f9ff.html	https://www.newsday.com/lifestyle/restaurants/2-spring-review-oyster-bay-1.17208606

4. Syrian War

Solr ID	Solr URL	PageRank ID	PageRank URL
1 5333856d3fa93d72844e84419d7078d.html	https://www.newsday.com/news/world/syria-united-nations-1.17436072	114bf516e02601968da6b2d48b7a9f2a.html	https://www.newsday.com/news/nation
2 074a239a608e90989f0f73d0fd98f7.html	https://www.newsday.com/news/world/syria-united-nations-1.17436072	344415e95b124dd33bbc1781bbcf130.html	https://www.newsday.com/sports/olympics
3 6057e2ee885baf6b00b05e71c32574a3c.html	https://www.newsday.com/news/world/turkey-syria-afirin-1.17463820	7d4c3c791a41e892a0057d7011655025.html	https://www.newsday.com/long-island/history
4 d5133f0b2de4f6324c8b1a42906e7b0a.html	https://www.newsday.com/news/nation/president-donald-trump-we-re-not-going-into-syria-1.13444720	3c49bc68f2b8ccbf6296de5701a8ed98.html	https://www.newsday.com/opinion/submit-your-letter-1.2516352
5 04523ed2a4ecf6a89d67eeb9533d246.html	https://www.newsday.com/news/world/turkey-syria-afirin-1.17463820	f57f488bf260daab100f84e379e21b71.html	https://www.newsday.com/sports/high-school/girls-basketball/baldwin-girls-make-history-by-repeating-as-state-class-aa-champs-1.17483760
6 aa6474d126997324bd985813a320f143.html	https://www.newsday.com/news/world/russia-uk-diplomats-spy-poisoning-1.17448346	2daeffd997f1bce2775881778095fb2d.html	https://www.newsday.com/entertainment/celebrities/recent-notable-deaths-1.1236203
7 dbfice27473b2df6add722989a5a5ac6.html	https://www.newsday.com/news/world/north-korea-photos-from-a-reclusive-country-1.13637395	5ca1ac24c1cd82c13d4cd7d389069856.html	https://www.newsday.com/long-island/nassau/passover-baskets-1.17486468
8 29351295ac3dd7fba0d251f430b704f.html	https://www.newsday.com/news/nation/sean-spicer-claims-even-hitler-didn-t-use-chemical-weapons-1.13431614	8e6d24428c4cf62711d1281613b47969.html	https://www.newsday.com/news/nation/president-trump-first-year-moments-1.16257304
9 62370686ac843093e71002af8b8db93.html	https://www.newsday.com/news/world/the-latest-russia-rejects-ultimatums-over-spy-poisoning-1.17381984	f474e5f1d809d790d590a254828e196f.html	https://www.newsday.com/travel/weekend-getaways-near-new-york-city-1.5299723
10 4ed7ff49f10b8106a0c37339fa0d96fd.html	https://www.newsday.com/long-island/suffolk/iraq-helicopter-crash-westhampton-1.17456031	14b9f08191cc3a67b2364c5d7187daeb.html	https://www.newsday.com/news/world

5. LA Rams

Solr ID	Solr URL	PageRank ID	PageRank URL
1 5f9073574d987e995e58f14b81f9411f.html	https://www.newsday.com/sports/football/super-bowl/super-bowl-history-1.170249	d06044efc5df8bc752dcba55c7bc47f.html	https://www.newsday.com/classifieds/cars
2 10de07afad5b12bc293d4bf6ad271865.html	https://www.newsday.com/sports/football/giants/alec-ogletree-traded-giants-rams-1.17191446	41399953f0085ec15ad7823d5ad161b2.html	https://www.newsday.com/sports/football/jets
3 9aa1ca8f4380a54ae44cd0423bce043.html	https://www.newsday.com/sports/football/giants/alec-ogletree-traded-giants-rams-1.17191446	b74548f5284cd6691320560323ad0fc3.html	https://www.newsday.com/sports/football/giants
4 bbc0c6dc8194a7bca611c321847a3de1b.html	https://www.newsday.com/sports/football/jets/jets-isaiah-crowell-trumaine-johnson-1.17379143	0fc8aa1a6c2c92bdc334c2eaa264167.html	https://www.newsday.com/sports/soccer
5 0a819e10f0a5555c2fca927892d663a.html	https://www.newsday.com/sports/football/giants/alec-ogletree-odell-beckham-teammates-1.17406118	3c49bc68f2b8ccbf6296de5701a8ed98.html	https://www.newsday.com/opinion/submit-your-letter-1.2516352
6 428bf9569c4d617f17b904bf4fa19207.html	https://www.newsday.com/sports/football/jets/jets-isaiah-crowell-trumaine-johnson-1.17379143	2daeffd997f1bce2775881778095fb2d.html	https://www.newsday.com/entertainment/celebrities/recent-notable-deaths-1.1236203
7 6af9b6f1ea110681b8d835a5c1996ae7f.html	https://www.newsday.com/sports/football/giants/giants-overhaul-to-offensive-line-has-been-a-smooth-ride-1.17412710	07521e5f257abedc9f3b82066b18288c.html	https://www.newsday.com/lifestyle/restaurants/feed-me/beginnings-atlantic-beach-goodfella-1.17419673
8 75479e9a238cdcb2ec76524fc0f2ce5.html	https://www.newsday.com/sports/football/giants/alec-ogletree-odell-beckham-teammates-1.17406118	f0dc0fdcd23974f71f919396a4f5825a6.html	https://www.newsday.com/sports/football/jets/jets-deal-with-colts-to-get-no-3-pick-1.17448060
9 4b8ba8e39cb43f654406438ade86.html	https://www.newsday.com/sports/football/nfl-free-agency-cousins-brees-1.17225240	13c7f489ba474d1d823798ed9e8f080.html	https://www.newsday.com/lifestyle/restaurants/barbecue-restaurants-on-long-island-our-critics-favorites-1.8916757
10 fa330da750117bba2ffe4972edf66e70.html	https://www.newsday.com/sports/football/super-bowl/super-bowl-game-winning-drives-1.6477576	f8843212535467820c44328a703a3b6a.html	https://www.newsday.com/travel/show-us-your-travel-photos-1.12098434

6. Black Panther

Solr ID	Solr URL	PageRank ID	PageRank URL
1 22d83b4ddb76bbfe5083ce6386abf430.html	https://www.newsday.com/entertainment/movies/black-panther-box-office-1.17471969	7d9e92eeef7f9390e24d64ca881a4a8af.html	https://www.newsday.com/long-island
2 8879094e5810320a09cc9c63ccb397bd.html	https://www.newsday.com/entertainment/movies/hempstead-students-see-black-panther-1.16901584	5bf1ce773d32eb94b123f952b922d992.html	https://www.newsday.com/entertainment
3 e320507530d88a59419205cd1a3e4e92.html	https://www.newsday.com/entertainment/movies/black-panther-review-1.16582314	3d22ee7254c8a9f0b599c310476f68e.html	https://www.newsday.com/lifestyle
4 f675c325537ad9e7029be11c50934fac.html	https://www.newsday.com/entertainment/movies/black-panther-1.16552223	39f17e9f2dd6b061d39a9e267d181515.html	https://www.newsday.com/long-island/nassau
5 a69ff94e2bbcc5d5fd4a534cbd74d30d7.html	https://www.newsday.com/entertainment/movies/black-panther-box-office-1.17471969	1fc05c3dae90e8387fecbb9419df4a48.html	https://www.newsday.com/news/health
6 bf28067c3e6e919ba94a1a985a627c89.html	https://www.newsday.com/entertainment/movies/black-panther-1.16552223	cd148099e1de3fff42d75c15fe4a634c.html	https://www.newsday.com/classifieds/real-estate
7 c9c4a5c481fcae3e3c39c0ac5cf5fc6d.html	https://www.newsday.com/entertainment/movies/hempstead-students-see-black-panther-1.16901584	ff6f61b45db1ed0b98c746bacae61ff5eb.html	https://www.newsday.com/entertainment/movies
8 0069c2581114521a5034626f0a992573.html	https://www.newsday.com/entertainment/movies/black-panther-review-1.16582314	099f2c5ddff7652eb721c9b0871da47ec.html	https://www.newsday.com/entertainment/tv
9 b2ba55b48cb4fccc97406dc5104d31ff.html	https://www.newsday.com/long-island/nassau/hempstead-students-treated-to-black-panther-showing-1.16901559	6f940c5a675982c282942f4fe214fcfd.html	https://www.newsday.com/sports/boxing
10 c3540911d1fc7abae0d5a51de41f24b8.html	https://www.newsday.com/entertainment/movies/latest-movie-reviews-1.2333132?offset=2	f1cd6cf33ba2df40e306f9ed2afe5dd6.html	https://www.newsday.com/lifestyle/home-and-garden

7. Austin Bombings

Solr ID	Solr URL	PageRank ID	PageRank URL
1 34400ffa2a17dad7dc7891fb64f27fe9.html	https://www.newsday.com/news/police-search-for-motive-in-austin-bombings-1.17372261	114bf516e02601968da6b2d48b7a9f2a.html	https://www.newsday.com/news/nation
2 1b69611c8233dee7c1704aeacd58010.html	https://www.newsday.com/news/police-search-for-motive-in-austin-bombings-1.17372261	d07a49714d4cdd76089abffe5abc8be4.html	https://www.newsday.com/
3 a0de5775e99f917949139ad62cad959d.html	https://www.newsday.com/news/nation/austin-texas-explosion-1.17496366	7353f78436d0b63787fd869e9b26d495.html	https://www.newsday.com/
4 cb8b9076994d7055c80a23f034362ba1.html	https://www.newsday.com/news/nation/austin-texas-explosion-1.17496366	4711b0a2c88747a984bb5f32316c1ee9.html	https://www.newsday.com/long-island/education/school-by-school-spending-rule-1.17484061
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6 d0kaf83d1428d212e32b922177597b53.html	https://www.newsday.com/news/austin-texas-explosion-injures-two-1.17497374	c453c607120a8043b33783134e68796a.html	https://www.newsday.com/entertainment/celebrities/celebrities-at-sxsw-1.17186200
7 ad50bb097d86dcf97320cb8ec7a9681e.html	https://www.newsday.com/news/federal-agents-swarm-austin-explosion-area-1.17497925	5afa31c5968c78452c020e1075476d34.html	https://www.newsday.com/lifestyle/family/netflix-kids-streaming-now-1.10684524
8 d5a2262b026cc25b6cabaa296dc8936e.html	https://www.newsday.com/news/nation/austin-package-bombs-1.17336169	a5be1aa07fd381452b9239ac799c29d.html	https://www.newsday.com/news/region-state/cuomo-gun-background-check-1.17498680
9 378688b9af7d8f1138e789e3535ae7.html	https://www.newsday.com/news/analysis-russian-sanctions-boost-mueller-probe-1.17406265	8e6d24428c4cf62711d1281613b47969.html	https://www.newsday.com/news/nation/president-trump-first-year-moments-1.16257304
10 240ceb970cd22533edd6065ecf881c1.html	https://www.newsday.com/news/health/robotic-tool-helps-people-walk-again-1.16636913	c697a96dca52a892b1dc9cd0b4150e1.html	https://www.newsday.com/sports/columnists/bob-glauber/nfl-free-agency-1.17433781

8. Paris Climate Deal

Solr ID	Solr URL	PageRank ID	PageRank URL
1 11fc986272f9196c733045aeb892564b.html	https://www.newsday.com/news/nation/trump-withdraws-u-s-from-paris-agreement-andrew-cuomo-barack-obama-scott-pruitt-more-respond-1.13700637	500f855747504481932e3c90e95ebc5b.html	https://www.newsday.com/sports
2 74d3514376bf103f7a036ff79dfde1da.html	https://www.newsday.com/news/nation/trump-u-s-will-withdraw-from-paris-climate-deal-wrongheaded-1.13699039	40d6ffda975d59755c66e8c30a231b20.html	https://www.newsday.com/business
3 644990697be2e01bc9532e4cc6b0de79.html	https://www.newsday.com/opinion/columnists/michael-dobie/withdrawing-from-climate-deal-wrongheaded-1.13700910	114bf516e02601968da6b2d48b7a9f2a.html	https://www.newsday.com/news/nation
4 1213dd05327ebd8b8d5038b982b2cddb.html	https://www.newsday.com/news/nation/trump-withdraws-u-s-from-paris-agreement-andrew-cuomo-barack-obama-scott-pruitt-more-respond-1.13700637	d06044efc5df8bc752dcbca55c7bc47f.html	https://www.newsday.com/classifieds/cars
5 9881d14d4112ef791a3d28d631f97561.html	https://www.newsday.com/news/nation/trump-u-s-will-withdraw-from-paris-climate-deal-wrongheaded-1.13699039	41399953f0085ec15ad7823d5ad161b2.html	https://www.newsday.com/sports/football/jets
6 0ac4318580d573a69567fa1e18a641ad.html	https://www.newsday.com/opinion/editorial/after-paris-pullout-americans-can-do-their-part-on-climate-1.13701237	b74548f5284cd6691320560323dd0fc3.html	https://www.newsday.com/sports/football/giants
7 ad9490a8e4ac156e47f6a50dd0d4d06c.html	https://www.newsday.com/opinion/eight-ideas-to-deal-with-climate-change-and-save-the-planet-1.11176829	67bflceea560f9eaa18459b3daed190.html	https://www.newsday.com/sports/football
8 922979dc4e246216d0c0cabcd837e3ae.html	https://www.newsday.com/opinion/eight-ideas-to-deal-with-climate-change-and-save-the-planet-1.11176829	0fc8aa1a6c2c92bde334c2e0aa264167.html	https://www.newsday.com/sports/soccer
9 1c3b945cd20f8a8af258641a6219f472.html	https://www.newsday.com/opinion/columnists/michael-dobie/the-terrible-what-ifs-of-climate-change-1.11068353	e15347dca53c53456481b658d6bcb5b3.html	https://www.newsday.com/entertainment/tv/reality-tv
10 11dc58d31bd9a1c295a01faf4337f44.html	https://www.newsday.com/long-island/environmentalists-li-is-closest-to-problem-of-climate-change-1.13729504	b951057a0c5f9b70bc2b0d71be94a47e.html	https://www.newsday.com/sports/golf

An overlap graph showing the amount of overlap between the two ranking strategies for all queries. By overlap we mean the number of results that appear in the top ten under both ranking methods. Axes should be labelled correctly to indicate query name and overlap number. If no overlaps at all, do not plot an empty graph, but you must mention it in your report.

