

CSCI572 Homework 4

STEPS FOLLOWED TO COMPLETE THE ASSIGNMENT

Setup of VirtualBox and Ubuntu

1. Downloaded and installed **VirtualBox** in my Windows OS
2. Downloaded the image file of **Ubuntu-20.04.5**
3. Created a Virtual Machine
4. After starting Ubuntu, added Guest additions, and enabled bidirectional copy-paste and drag and drop features in VBox
5. Installed **Java 11.0.16** in Ubuntu

Installation of Solr and Indexing of data files

1. Downloaded and unzipped the SOLR 7.7.3
2. Started SOLR server:
 - `cd /opt/solr-7.7.3`
 - `bin/solr start`
 - Verified that SOLR server is running at `http://localhost:8983/solr/#/`
3. Created new core : `ny_core`
 - `bin/solr create -c ny_core`
 - Verified core is created in Solr UI
4. Downloaded NY Times data from <https://drive.google.com/drive/folders/14qtJywCRk00wEbmt-Pv3efyPIBqwcoZr>
5. Uncommented the line in `managed-schema.xml` file : `<copyField source="*" dest="_text_"/>`
6. Performed indexing using the command : `bin/post -c ny_core -filetypes html /home/hemanth/Downloads/nytimes/nytimes`

7. In `http://localhost:8983/solr/`, selected core Admin -> ny_core -> Reload
8. Configured Solr to query default from `_text_` by defining the `df` field inside `requestHandler` of `solrconfig.xml` file. Next, reloaded the core from core Admin.

Page Rank Implementation in Solr:

1. Created a Java Maven project, integrated Jsoup library, parsed URLs to extract the outgoing links and create a graph and store it as `edgelist.txt`(format : `from_URL to_URL`)
2. Used `Network_X` (Python library) to generate page ranks from `edgelist.txt`
3. Calculate the Page Rank of the documents using Page Rank function of `DiGraph` with the following parameters :
 - a. `alpha` : 0.85
 - b. `personalization` : None
 - c. `Max_iter` : 30
 - d. `Tol` : 1e-06
 - e. `Nstart` : None
 - f. `Weight` : 'weight'
 - g. `Dangling` : None
4. Created `external_PageRankFile` using python program and placed it in data folder of `ny_core`.
5. Added field entry in managed-schema to access this `pageRankFile` during querying and defined listeners in `solrconfig.xml` to reload the external file at the time of first search or new search
6. Reloaded the `ny_core` and added '`pageRankFile desc`' in the sort field to enable sorting via PageRank scores instead of default Lucene

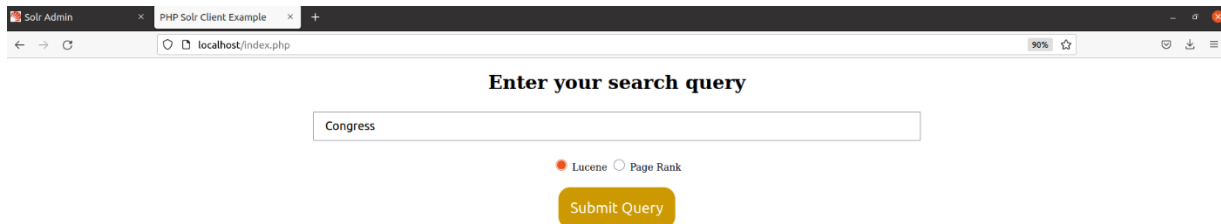
Explanation regarding why some pages have higher PageRank values than others:

Page rank algorithm gives each page a rating, which is a recursively defined measure whereby each page becomes important if other important pages link to it. Thus, page rank algorithm gives more importance to how many other pages links

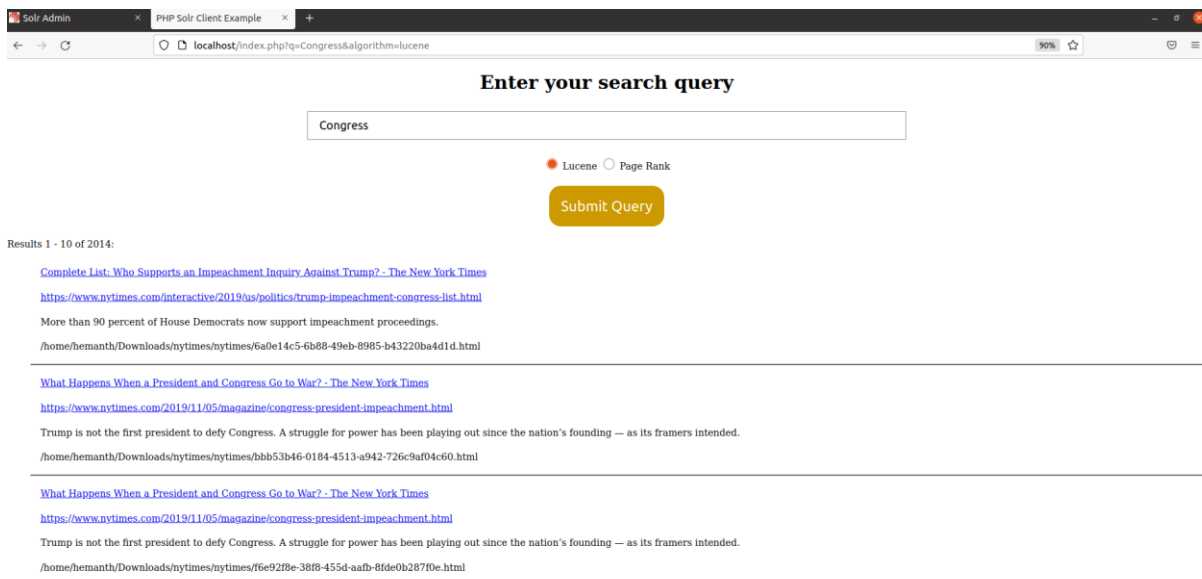
to a page over the content of the page. It can also be observed that parent pages like homepages have received higher rank scores over other pages in many cases.

Screenshots of the search process:

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



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



[Lack of Electricity in Mueller Testimony Short-Circuits Impeachment - The New York Times](https://www.nytimes.com/2019/07/25/us/politics/mueller-impeachment.html)
<https://www.nytimes.com/2019/07/25/us/politics/mueller-impeachment.html>

Robert S. Mueller III's performance may not have ended chatter about impeachment, but his lack of revelations made a full House vote to impeach President Trump almost impossible.
/home/hemanth/Downloads/nytimes/nytimes/d547d8bb-8fc3-45e4-a796-dbb63e506cd4.html

[Raising Prospect of Impeaching Trump, House Seeks Mueller's Grand Jury Secrets - The New York Times](https://www.nytimes.com/2019/07/26/us/politics/donald-trump-impeachment.html)
<https://www.nytimes.com/2019/07/26/us/politics/donald-trump-impeachment.html>

In a court filing, House Democrats said they need access to secret grand jury evidence because they are weighing whether to recommend impeaching President Trump.
/home/hemanth/Downloads/nytimes/nytimes/6516db74-6c72-47f2-87ab-41ca40e7124.html

[How Congress Passed an Assault Weapons Ban in 1994 - The New York Times](https://www.nytimes.com/2019/09/07/us/politics/congress-assault-weapons-ban.html)
<https://www.nytimes.com/2019/09/07/us/politics/congress-assault-weapons-ban.html>

Congress and the White House found a way to come together on guns 25 years ago. It is hard to see that kind of bipartisanship resurfacing in the current environment.
/home/hemanth/Downloads/nytimes/nytimes/b42cbfee-afa4-49a5-abeb-82776a8a74a9.html

[James H. Billington, 89, Dies: Led Library of Congress Into Digital Age - The New York Times](https://www.nytimes.com/2018/11/21/obituaries/james-hillington-dead.html)
<https://www.nytimes.com/2018/11/21/obituaries/james-hillington-dead.html>

Overseeing the nation's treasure house of knowledge for three decades, he almost doubled its holdings but resigned in 2015, stung by cries of mismanagement.
/home/hemanth/Downloads/nytimes/nytimes/7b99cad8-2117-4bde-92b5-5789662b8545.html

[Bloomberg May Run for President as a Democrat, Some of His Views May Cause Him Trouble. - The New York Times](https://www.nytimes.com/2018/09/17/us/politics/bloomberg-president-2020-democrat.html)
<https://www.nytimes.com/2018/09/17/us/politics/bloomberg-president-2020-democrat.html>

Michael Bloomberg, the former mayor of New York, acknowledged he has some differences with progressive Democrats, but said, "It's impossible to conceive that I could run as a Republican."

[Bloomberg May Run for President as a Democrat, Some of His Views May Cause Him Trouble. - The New York Times](https://www.nytimes.com/2018/09/17/us/politics/bloomberg-president-2020-democrat.html)
<https://www.nytimes.com/2018/09/17/us/politics/bloomberg-president-2020-democrat.html>

Michael Bloomberg, the former mayor of New York, acknowledged he has some differences with progressive Democrats, but said, "It's impossible to conceive that I could run as a Republican."
/home/hemanth/Downloads/nytimes/nytimes/ac63e87d-c860-478a-9ef9-b273c13e5d24.html

[U.S. Orders Freeze of Foreign Aid, Bypassing Congress - The New York Times](https://www.nytimes.com/2019/08/07/us/politics/foreign-aid-freeze-congress.html)
<https://www.nytimes.com/2019/08/07/us/politics/foreign-aid-freeze-congress.html>

The Office of Management and Budget is reviewing the use of the money, suggesting that it could cut the funding entirely.
/home/hemanth/Downloads/nytimes/nytimes/7c4cdb69-6f58-4a86-830e-6197f1e90bee.html

[Ron Dellums, 82, Dies: Unrelenting in Congress, He Upheld Left's Ideals - The New York Times](https://www.nytimes.com/2018/07/30/obituaries/ron-dellums-forceful-liberal-in-congress-for-27-years-dies-at-82.html)
<https://www.nytimes.com/2018/07/30/obituaries/ron-dellums-forceful-liberal-in-congress-for-27-years-dies-at-82.html>

Arriving in Washington as an antiwar firebrand, he became a House leader as head of the Armed Services Committee and the Congressional Black Caucus.
/home/hemanth/Downloads/nytimes/nytimes/57f5cbb8-2a8f-46f3-8995-7ac04ba37c6b.html

3. Screenshot of page which shows the results for Page Rank

Solr AdminPHP Solr Client Example

localhost/index.php?q=Congress&algorithm=pagerank90%

Enter your search query

Congress

Lucene

Page Rank

Submit Query

Results 1 - 10 of 2014:

How Surveillance Cameras Tracked Two Russian Hit Men - Video - NYTimes.com

https://www.nytimes.com/video/world/europe/10000006087791/how-surveillance-cameras-tracked-two-russian-hit-men.html

British investigators used security footage and flight records to track two Russian men who now stand accused of attempted murder in the March attack featuring the nerve agent Novichok.

/home/hemanth/Downloads/nytimes/nytimes/b43eba5e-fba6-4bdf-ba01-6c8692449b48.html

Ross Perot, Brash Texas Billionaire Who Ran for President, Dies at 89 - The New York Times

https://www.nytimes.com/2019/07/09/us/politics/ross-perot-death.html

Mr. Perot made a fortune in computer services, mounted bizarre paramilitary missions in Asia and was a strong third-party hopeful in the 1990s.

/home/hemanth/Downloads/nytimes/nytimes/8c0c1319-cef3-4520-9aec-f60e27afec67.html

HONG KONG ACCORD IS SIGNED IN PEKING - The New York Times

https://www.nytimes.com/1984/12/20/world/hong-kong-accord-is-signed-in-peking.html

Description not found

/home/hemanth/Downloads/nytimes/nytimes/27fd7fcc-c6c8-4de8-a01f-6366274237cc.html

House Republicans Tried to Prank Democrats on Their Impeachment Votes, Capitol Police Investigated - The New York Times

https://www.nytimes.com/2019/11/01/us/politics/house-republican-box-prank.html

The House Republican campaign arm sent empty boxes to the offices of Democrats who endorsed the impeachment inquiry. They were deemed suspicious packages.

/home/hemanth/Downloads/nytimes/nytimes/1afcc52a-8f42-4763-adea-f1492ea9cf85.html

California Sues Facebook for Documents in Privacy Investigation - The New York Times

https://www.nytimes.com/2019/11/06/technology/facebook-california-investigation.html

The state said Facebook had resisted or ignored dozens of requests for documents and internal correspondence about the company's handling of personal data.

/home/hemanth/Downloads/nytimes/nytimes/ed5e1e59-3c66-4afe-916d-a493ad9c015c.html

Gillibrand Drops Out of 2020 Democratic Presidential Race - The New York Times

https://www.nytimes.com/2019/08/28/us/politics/d Kirsten-gillibrand-2020-drop-out.html

The New York senator anchored her candidacy in issues of women's equality, but she was unable to gain traction and her failure to qualify for the next debate convinced her to withdraw.

/home/hemanth/Downloads/nytimes/nytimes/fd97a893-3eca-4cfb-b2f4-77a08162d879.html

Europe Shut These Migrants Out, Libyan Rebels Bombed Them - Video - NYTimes.com

https://www.nytimes.com/video/world/middleeast/10000006594318/europe-shut-african-migrants-out-libyan-rebels-bombed-them.html

A Times investigation shows that the African migrants killed by a July 2 airstrike in Libya were being detained near a weapons depot — a prime target in the country's civil war. Before the attack, the E.U. ignored calls to move the migrants.

/home/hemanth/Downloads/nytimes/nytimes/448b603e-a5bf-467e-8bbb-cd5d0145239c.html

Katie Rogers

https://www.nytimes.com/by/katie-rogers

Katie Rogers is a White House correspondent for The New York Times. She started at The Times in 2014 and has since focused on features and breaking news. She has covered Washington in the Trump era, pop culture, sexual harassment in Congress, New York Fashion Week, socialites, sexism at the Olympics and the occasional Santa. She is a native Hoosier and a graduate of Loyola University Chicago.

/home/hemanth/Downloads/nytimes/nytimes/5476e16b-0116-430c-8dc8-cb4d62f43899.html

Lawmakers Visit Migrant Detention Center - Video - NYTimes.com

https://www.nytimes.com/video/us/politics/10000006591681/texas-migrant-centers-tour.html

Representatives Alexandria Ocasio-Cortez and Joaquin Castro toured two Texas border facilities on Monday. They described poor conditions during a news conference, while being heckled by a handful of protesters.

/home/hemanth/Downloads/nytimes/nytimes/7efb612b-93f3-4d23-844e-e87e97a12b0c.html

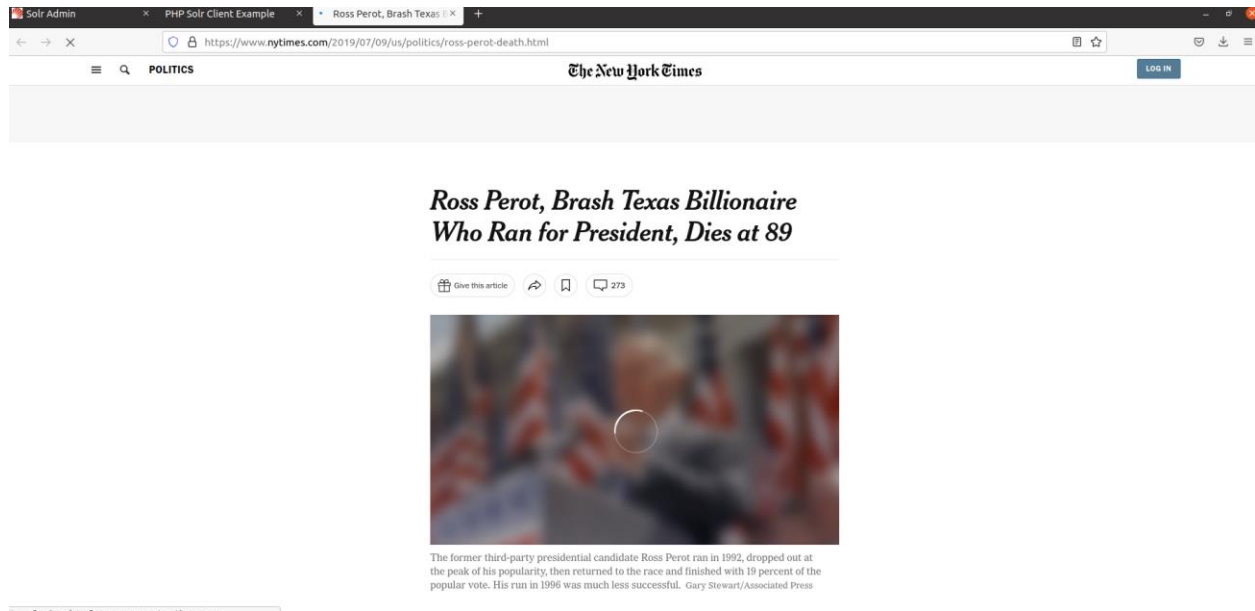
Election News Video Channel - NYTimes.com

https://www.nytimes.com/video/election-news

Watch Election News videos on Times Video from The New York Times.

/home/hemanth/Downloads/nytimes/nytimes/60684b4d-2ce4-4b74-b6c5-7669d236befb.html

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



Query Results:

1. Cannes:

Lucene	Page Rank
https://www.nytimes.com/2019/05/25/movies/cannes-film-festival-winners-parasite.html	https://www.nytimes.com/2019/09/25/movies/ree-zellweger-judy.html
https://www.nytimes.com/2019/05/25/movies/cannes-film-festival-winners-parasite.html	https://www.nytimes.com/2018/04/18/obituaries/vittorio-taviani-88-dies-made-acclaimed-films-with-brother.html

https://www.nytimes.com/2018/04/12/movies/cannes-lineup-netflix-boycott.html	https://www.nytimes.com/2018/11/02/movies/oscars-leading-supporting-actor.html
https://www.nytimes.com/2019/05/24/movies/cannes-almodovar-kechiche.html	https://www.nytimes.com/2019/07/25/arts/venice-film-festival-roman-polanski.html
https://www.nytimes.com/2019/05/16/movies/cannes-film-festival-jim-jarmusch.html	https://www.nytimes.com/2018/11/08/obituaries/francis-lai-dead.html
https://www.nytimes.com/2019/05/21/movies/cannes-film-festival-antonio-banderas-pedro-almodovar.html	https://www.nytimes.com/2018/09/06/movies/popular-oscar-category-killed.html
https://www.nytimes.com/2019/05/27/movies/cannes-oscars.html	https://www.nytimes.com/news-event/awards-season
https://www.nytimes.com/2019/05/20/arts/cannes-film-festival-black-director.html	https://www.nytimes.com/2019/01/09/movies/black-panther-oscars-ryan-coogler.html
https://www.nytimes.com/2019/05/22/movies/quentin-tarantino-margot-robbie.html	https://www.nytimes.com/2019/05/17/obituaries/machiko-kyo-dead.html
https://www.nytimes.com/2019/05/22/movies/dicaprio-pitt.html	https://www.nytimes.com/2019/02/26/movies/oscars-academy-green-book.html

2. Congress

Lucene	Page Rank
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https://www.nytimes.com/interactive/2019/us/politics/trump-impeachment-congress-list.html	https://www.nytimes.com/video/world/europe/100000006087791/how-surveillance-cameras-tracked-two-russian-hit-men.html
https://www.nytimes.com/2019/11/05/magazine/congress-president-impeachment.html	https://www.nytimes.com/2019/07/09/us/politics/ross-perot-death.html
https://www.nytimes.com/2019/11/05/magazine/congress-president-impeachment.html	https://www.nytimes.com/1984/12/20/world/hong-kong accord-is-signed-in-pekings.html
https://www.nytimes.com/2019/07/25/us/politics/mueller-impeachment.html	https://www.nytimes.com/2019/11/01/us/politics/house-republican-box-prank.html
https://www.nytimes.com/2019/07/26/us/politics/donald-trump-impeachment.html	https://www.nytimes.com/2019/11/06/technology/facebook-california-investigation.html
https://www.nytimes.com/2019/09/07/us/politics/congress-assault-weapons-ban.html	https://www.nytimes.com/2019/08/28/us/politics/kirsten-gillibrand-2020-drop-out.html
https://www.nytimes.com/2018/11/21/obituaries/james-billington-dead.html	https://www.nytimes.com/video/world/middleeast/100000006594318/europe-shut-african-migrants-out-libyan-rebels-bombed-them.html
https://www.nytimes.com/2018/09/17/us/politics/bloomberg-president-2020-democrat.html	https://www.nytimes.com/by/katie-rogers
https://www.nytimes.com/2019/08/07/us/politics/foreign-aid-freeze-congress.html	https://www.nytimes.com/video/us/politics/100000006591681/texas-migrant-centers-tour.html

https://www.nytimes.com/2018/07/30/obituaries/ron-dellums-forceful-liberal-in-congress-for-27-years-dies-at-82.html	https://www.nytimes.com/video/election-news
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3. Democrats

Lucene	Page Rank
https://www.nytimes.com/2018/09/04/us/politics/ayanna-pressley-massachusetts.html	https://www.nytimes.com/video/world/europe/100000006087791/how-surveillance-cameras-track-russian-hit-men.html
https://www.nytimes.com/2018/11/07/us/politics/election-history-firsts-blackburn-pressley.html	https://www.nytimes.com/2019/08/19/opinion/russia-disinformation-trump.html
https://www.nytimes.com/2019/10/16/us/politics/democrats-impeachment.html	https://www.nytimes.com/2019/10/10/opinion/donald-trump.html
https://www.nytimes.com/2019/09/29/us/politics/pelosi-trump-impeachment.html	https://www.nytimes.com/2019/10/22/us/elizabeth-warren-chicago-teachers-strike.html
https://www.nytimes.com/2018/01/23/us/politics/impeach-trump-democrats-tom-steyer.html	https://www.nytimes.com/2019/11/06/business/dealbook/boeing-dealbook-conference.html
https://www.nytimes.com/2019/09/24/us/politics/trump-democrats.html	https://www.nytimes.com/2019/07/30/us/politics/elizabeth-warren-bernie-sanders.html

https://www.nytimes.com/2019/10/28/us/politics/trump-impeachment-subpoena-house.html	https://www.nytimes.com/2019/07/09/us/politics/ross-perot-death.html
https://www.nytimes.com/2019/11/05/opinion/trump-democrats-2020.html	https://www.nytimes.com/interactive/2019/07/02/us/elections/candidate-money-donors-q2.html
https://www.nytimes.com/2019/11/01/us/politics/house-republican-box-prank.html	https://www.nytimes.com/video/us/politics/10000006654886/biden-poor-kid-white-kids.html
https://www.nytimes.com/issue/magazine/2019/06/25/the-61619-issue	https://www.nytimes.com/by/quoc-trung-bui

4. Patriot Movement

Lucene	Page Rank
https://www.nytimes.com/2019/08/14/opinion/joe-walsh-trump-primary.html	https://www.nytimes.com/video/world/europe/1087791/how-surveillance-cameras-tracked-two-russmen.html
https://www.nytimes.com/1976/08/27/archives/lewis-michaux-92-dies-ran-bookstore-in-harlem.html	https://www.nytimes.com/2018/06/18/world/europe/germany-merkel-coalition.html
https://www.nytimes.com/2019/05/15/us/politics/us-iraq-embassy-evacuation.html	https://www.nytimes.com/video/opinion/100000005868795/how-healthcare-makes-disability-a-trap.html
https://www.nytimes.com/2019/01/07/obituaries/moshe-arens-dead.html	https://www.nytimes.com/2019/10/12/world/middleeast/turkey-invasion-syria-kurds.html

https://www.nytimes.com/2018/12/29/obituaries/shehu-shagari-dead.html	https://www.nytimes.com/2019/10/30/opinion/ethics-moderation-politics.html
https://www.nytimes.com/2019/10/27/obituaries/john-conyers-jr-dead.html	https://www.nytimes.com/2019/10/04/health/deep-brain-stimulation-depression.html
https://www.nytimes.com/2019/09/23/opinion/democrats-republicans.html	https://www.nytimes.com/video/world/asia/10000006660086/hong-kong-protests-video.html
https://www.nytimes.com/2018/09/04/us/politics/ayanna-pressley-massachusetts.html	https://www.nytimes.com/2019/07/09/us/politics/ross-perot-death.html
https://www.nytimes.com/interactive/2018/10/31/magazine/yemen-war-saudi-arabia.html	https://www.nytimes.com/2019/07/23/science/cuba-diplomats-health.html
https://www.nytimes.com/2019/08/15/t-magazine/tropical-brutalism.html	https://www.nytimes.com/2018/12/24/world/middleeast/christmas-lebanon.html

5. Republicans

Lucene	Page Rank
https://www.nytimes.com/2019/10/24/us/politics/senate-republicans-trump.html	https://www.nytimes.com/2019/10/10/opinion/donald-trump.html
https://www.nytimes.com/2019/11/04/us/politics/trump-republicans-impeachment.html	https://www.nytimes.com/2019/10/22/us/elizabeth-warren-chicago-teachers-strike.html

https://www.nytimes.com/2019/11/04/us/politics/trump-republicans-impeachment.html	https://www.nytimes.com/2019/07/09/us/politics/ross-perot-death.html
https://www.nytimes.com/by/catie-edmondson	https://www.nytimes.com/video/us/politics/100000006654886/biden-poor-kid-white-kids.html
https://www.nytimes.com/interactive/2019/08/14/magazine/republicans-racism-african-americans.html	https://www.nytimes.com/by/quoc-trung-bui
https://www.nytimes.com/2019/10/04/us/politics/republicans-trump-defense.html	https://www.nytimes.com/2019/11/01/us/politics/house-republican-box-prank.html
https://www.nytimes.com/2019/10/31/us/politics/house-impeachment-partisan-vote.html	https://www.nytimes.com/video/us/politics/100000006639247/warren-sanders-debates.html
https://www.nytimes.com/2019/11/09/us/politics/republican-strategy-impeachment-trump.html	https://www.nytimes.com/issue/todayspaper/2018/10/14/todays-new-york-times
https://www.nytimes.com/2019/11/06/us/trump-senate-republicans-courts.html	https://www.nytimes.com/2019/10/17/world/middleeast/trump-pence-syria-turkey-ceasefire.html
https://www.nytimes.com/2019/11/06/us/trump-senate-republicans-courts.html	https://www.nytimes.com/by/katie-rogers

6. Senate

Lucene	Page Rank
https://www.nytimes.com/2019/10/01/us/politics/senate-trump-impeachment.html	https://www.nytimes.com/2019/08/19/opinion/russia-disinformation-trump.html

https://www.nytimes.com/by/carl-hulse	https://www.nytimes.com/2019/10/10/opinion/donald-trump.html
https://www.nytimes.com/2019/10/26/us/trump-senate-presidency.html	https://www.nytimes.com/2019/07/30/us/politics/elizabeth-warren-bernie-sanders.html
https://www.nytimes.com/2019/10/24/us/politics/senate-republicans-trump.html	https://www.nytimes.com/issue/todayspaper/2018/10/14/todays-new-york-times
https://www.nytimes.com/2019/11/08/us/impeachment-senate-democrats.html	https://www.nytimes.com/2019/08/28/us/politics/kirsten-gillibrand-2020-drop-out.html
https://www.nytimes.com/2019/08/03/us/politics/senate-votes-mcconnell.html	https://www.nytimes.com/2019/10/17/world/middleeast/trump-pence-syria-turkey-ceasefire.html
https://www.nytimes.com/2019/08/31/us/politics/senate-race-2020.html	https://www.nytimes.com/interactive/2017/07/19/us/what-trump-can-do-to-let-obamacare-fail.html
https://www.nytimes.com/2019/08/22/us/politics/john-hickenlooper-senate-2020.html	https://www.nytimes.com/video/us/politics/100000006770809/warren-and-sanders-back-impeachment-of-trump.html
https://www.nytimes.com/2019/10/18/us/politics/mcconnell-impeachment-senate.html	https://www.nytimes.com/video/us/politics/100000004552697/bill-clinton-a-convention-fixture.html
https://www.nytimes.com/2019/11/06/us/trump-senate-republicans-courts.html	https://www.nytimes.com/2019/09/14/us/politics/senate-legislation.html

7. Olympics 2020

Lucene	Page Rank
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https://www.nytimes.com/2019/10/01/travel/what-you-need-to-know-the-tokyo-2020-olympics.html	https://www.nytimes.com/2017/07/27/climate/airplane-pollution-global-warming.html
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https://www.nytimes.com/video/sports/olympics/100000005750317/johnny-weir-tara-lipinski-figure-skating.html	https://www.nytimes.com/2015/09/29/opinion/share-water-along-the-nile.html

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8. Stock

Lucene	Page Rank
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https://www.nytimes.com/2019/10/24/style/rebag-clair-handbag-stock-market.html	https://www.nytimes.com/2019/09/05/business/dealbook/aramco-ipo.html
https://www.nytimes.com/2019/05/30/technology/uber-stock-earnings.html	https://www.nytimes.com/2019/08/26/world/europe/g7-trump-china-trade-war.html
https://www.nytimes.com/2019/09/20/technology/airbnb-employees-ipo-payouts.html	https://www.nytimes.com/issue/magazine/2017/07/14/magazine-index-20170716
https://www.nytimes.com/2018/11/12/obituaries/david-pearson-nascar-dead.html	https://www.nytimes.com/section/world

https://www.nytimes.com/2019/10/28/business/stock-market-record.html	https://www.nytimes.com/interactive/2018/09/12/us/las-vegas-housing-crisis.html
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9. Virus

Lucene	Page Rank
https://www.nytimes.com/2019/11/09/science/seals-distemper.html	https://www.nytimes.com/2019/11/06/health/crispr-cancer-leukemia.html
https://www.nytimes.com/2019/10/25/health/predict-usaid-viruses.html	https://www.nytimes.com/column/ask-well
https://www.nytimes.com/2019/10/28/us/politics/kay-hagan-dead.html	https://www.nytimes.com/section/world
https://www.nytimes.com/2019/02/05/us/politics/trump-hiv-aids-plan.html	https://www.nytimes.com/2019/03/08/world/international-women-day-2019.html
https://www.nytimes.com/by/donald-g-mcneil-jr	https://www.nytimes.com/2019/11/01/science/blue-holes-hurricanes.html
https://www.nytimes.com/2019/09/27/well/live/when-is-the-best-time-to-get-your-flu-shot.html	https://www.nytimes.com/2019/10/29/health/tuberculosis-vaccine.html
https://www.nytimes.com/video/opinion/10000006210828/russia-disinformation-fake-news.html	https://www.nytimes.com/2019/10/29/us/politics/matt-bevin-andy-beshear-kentucky-governor.html
https://www.nytimes.com/video/opinion/10000006210828/russia-disinformation-fake-news.html	https://www.nytimes.com/2018/12/15/us/politics/mulvaney-trump-terrible-human-being.html

https://www.nytimes.com/2019/01/23/neediest-cases/daughter-cmv.html	https://www.nytimes.com/2018/02/19/obituaries/gunter-blobel-nobel-laureate-who-found-cell-zip-codes-dies-at-81.html
https://www.nytimes.com/by/tariro-mzezewa	https://www.nytimes.com/2019/07/15/t-magazine/important-contemporary-art.html

Overlap Table:

There are no overlaps between the two ranking strategies for all queries.

Query	Overlap
Cannes	0
Congress	0
Democrats	0
Patriot Movement	0
Republicans	0
Senate	0
Olympics 2020	0
Stock	0
Virus	0