Solr Exercise Report
CSCI 572 Spring 2022
Yingjie Shen
USC ID: 4756454466

Setup Solr

1) Check system specs: *MacOS 12*, *Java 8*, *Python 3.8*, *php 7.4*.

   ```
   $java -version
   $python -version
   $php -v
   ```
2) Install *solr-7.7.3*.
3) Cd into solr folder and start the Solr server.

   ```
   $bin/solr start
   ```
4) Create a new core called *myexample*.

   ```
   $bin/solr create -c myexample
   ```
5) Uncomment the required line in *managed-schema* configuration in ~/*solr-7.7.3/server/solr/myexample/conf/.*
6) Download crawled files *latimes/* and url map file *URLtoHTML_latimes_news.csv*.
7) Index the crawled html files in *latimes/*.

   ```
   $bin/post -c myexample -filetypes html /Users/syjack1997/Downloads/latimes
   ```
8) Go to *http://localhost:8983/solr/#/* in browser, and reload *myexample* core under *Core Admin* tab.

Setup PageRank option

1) Download *jsoup-1.14.3.jar*.
2) Create a new Java project in *Eclipse* and add *jsoup-1.14.3.jar* as external jar.
3) Follow instructions in appendix to write *LinkExtract.java* using *jsoup* library to extract the link structure and save edges to *edgelist.txt*.
4) Install *NetworkX*.

   ```
   $pip install networkx
   ```
5) Follow instructions in appendix to write *pagerank.py* using *NetworkX* library build a graph from *edgelist.txt* with required parameters and save pagerank results to *external_pageRankFile.txt*.
6) Copy the *external_pageRankFile.txt* to ~/*solr-7.7.3/server/solr/myexample/data/.*
7) Add and edit the required lines in *managed-schema* and *solrconfig.xml* configuration in ~/*solr-7.7.3/server/solr/myexample/conf/*
8) Go to *http://localhost:8983/solr/#/* in browser, and reload *myexample* core under *Core Admin* tab.

Develop webserver to display results

1) Download *Solr PHP Client*.
2) Develop a web page using php called *index.php* to allow users to type query keywords, toggle results ranking algorithms between Lucene and PageRank, submit query request and display top 10 results.
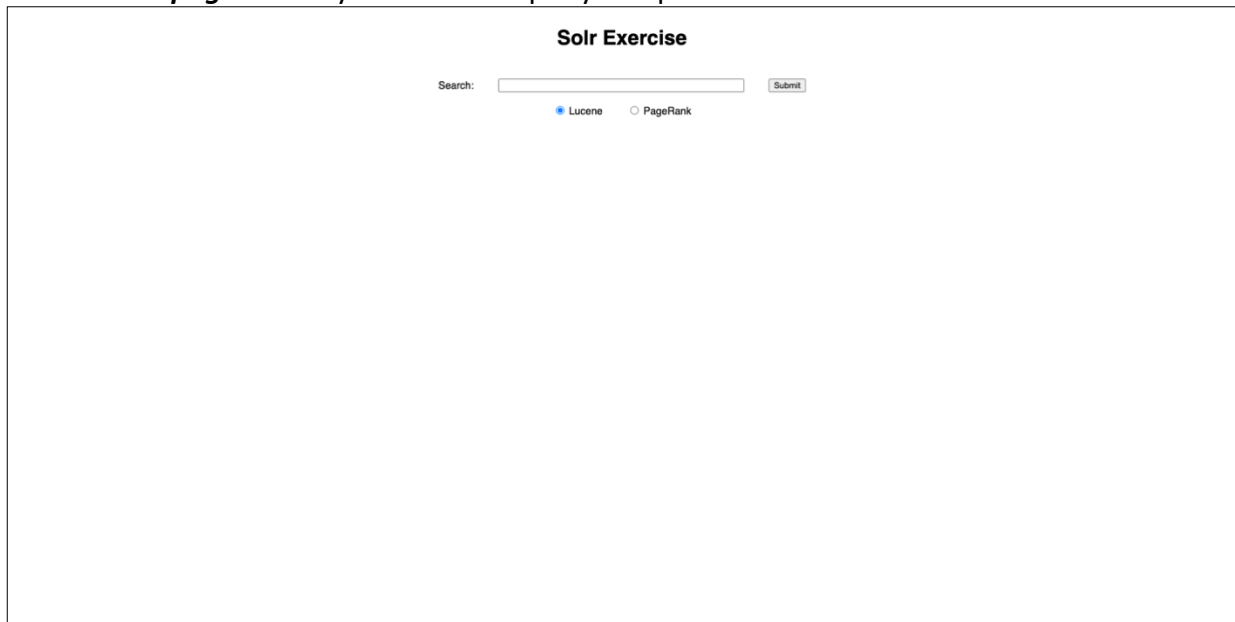3) Start php server.

   ```
   $php -S localhost:9000
   ```
4) Test the web page on *http://localhost:9000* in browser.

Why some pages have higher PageRank values than others

PageRank assigns a PageRank score to the web pages based on the number of links pointed to a web page and number of links pointed out of that web page. If a web page has more web pages pointed to it, it will have a higher PageRank score. For example, the sitemap page has a higher PageRank score and displays on top of the results because it may have more web pages pointed to it than other web pages.

Screenshots of webpage

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

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

Solr Exercise

Search: [Cannes] [Submit]

● Lucene   ○ PageRank

Results 1 - 10 of 144:

1. Title: Cannes Film Festival - Los Angeles Times
   URL: https://www.latimes.com/topic/cannes-film-festival
   ID: /Users/syjack1997/Downloads/latimes/570906ea-4a63-47eb-8982-b1d1c84c96dd.html
   Description: N/A

2. Title: Cannes: Times critics on everything you need to know about this year's festival - Los Angeles Times
   URL: https://www.latimes.com/entertainment/movies/la-et-mn-cannes-wrap-critics-conversation-20190526-story.html
   ID: /Users/syjack1997/Downloads/latimes/26ca60fd-075d-428a-a569-648aa22f54a2.html
   Description: The 72nd Festival de Cannes featured new films by Quentin Tarantino and Terrence Malick, opened with Jim Jarmusch's "The Dead Don't Die" and ended with the Palme d'Or going to "Parasite," a thriller directed by South Korean filmmaker Bong Joon-ho.

3. Title: Cannes 2015: The full list of winners - Los Angeles Times
   URL: https://www.latimes.com/entertainment/movies/moviesnow/la-et-mn-cannes-2015-winners-20150524-story.html
   ID: /Users/syjack1997/Downloads/latimes/d0b46307-f1ca-41b0-b801-dabbdfc99814.html
   Description: Director Jacques Audiard's film "Dheepan," a drama about three Tamil exiles trying to reconstruct their lives in France, has won the top prize at the Cannes Film Festival.

4. Title: Bong Joon-ho's 'Parasite' and Mati Diop's 'Atlantics' make history at Cannes Film Festival - Los Angeles Times
   URL: https://www.latimes.com/entertainment/movies/la-et-mn-cannes-film-festival-award-winners-20190525-story.html
   ID: /Users/syjack1997/Downloads/latimes/b418851c-6897-4f78-bfcd-9c38b7154d7b.html
   Description: History was made and history repeated itself, albeit with a wicked twist, when Bong Joon-ho's "Parasite" won the Festival de Cannes' Palme d'Or on Saturday night.

5. Title: One thing the Cannes Film Festival jury got right: Bong Joon-ho's 'Parasite' victory - Los Angeles Times
   URL: https://www.latimes.com/entertainment/movies/la-et-mn-cannes-parasite-atlantics-awards-20190526-story.html
   ID: /Users/syjack1997/Downloads/latimes/64e00e56-5f91-4bc7-946a-2a71ad7cae42.html
   Description: Times critic Justin Chang is filing dispatches from the 72nd Cannes Film Festival, which ran May 14-25 in France.

6. Title: Quentin Tarantino gets testy at Cannes over question about women's roles in his films - Los Angeles Times
   URL: https://www.latimes.com/entertainment/movies/la-et-mn-cannes-once-upon-a-time-in-hollywood-20190522-story.html
   ID: /Users/syjack1997/Downloads/latimes/643a9a12-ce31-41b6-9f8f-f9359d9a75e6.html
   Description: There were plenty of hard questions Quentin Tarantino could have faced as he greeted reporters for the first time following the Cannes premiere of "Once Upon a Time … in Hollywood."

7. Title: At Cannes, genre filmmaking from 'Parasite' to 'The Wild Goose Lake' turns heads - Los Angeles Times
   URL: https://www.latimes.com/entertainment/movies/la-ca-mn-cannes-genre-parasite-wild-goose-lake-tarantino-20190522-story.html
   ID: /Users/syjack1997/Downloads/latimes/ae77536e-e381-4fe6-8ad7-9fb75ea307d1.html
   Description: Times critic Justin Chang is filing regular dispatches from the 72nd annual Cannes Film Festival, which runs through Saturday in France.

8. Title: Review: Abdellatif Kechiche's 'Mektoub, My Love: Intermezzo' is the disaster of the Cannes Film Festival - Los Angeles Times
   URL: https://www.latimes.com/entertainment/movies/la-et-mn-cannes-mektoub-my-love-intermezzo-abdellatif-kechiche-20190523-story.html
   ID: /Users/syjack1997/Downloads/latimes/6c8bb62d-9a2e-4eb1-9e39-0702f4c0a2bb.html
   Description: Times critic Justin Chang is filing regular dispatches from the 72nd Cannes Film Festival, which runs May 14-25 in France.

9. Title: Quentin Tarantino shocks Cannes again with epic 'Once Upon a Time … in Hollywood' - Los Angeles Times
   URL: https://www.latimes.com/entertainment/movies/la-et-mn-cannes-quentin-tarantino-once-upon-a-time-in-hollywood-20190521-story.html
   ID: /Users/syjack1997/Downloads/latimes/24290574-b025-4e8f-bdfb-762f4a0d7fa6.html
   Description: Times critic Justin Chang is filing regular dispatches from the 72nd annual Cannes Film Festival, which runs May 14-25 in France.

10. Title: Robert Eggers, director of the smart and scary 'The Lighthouse,' sees comfort in horror - Los Angeles Times
    URL: https://www.latimes.com/entertainment/movies/la-et-mn-cannes-robert-eggers-the-lighthouse-robert-pattinson-20190524-story.html
    ID: /Users/syjack1997/Downloads/latimes/92b6b8e6-e668-45ef-aee6-093cf812282d.html
    Description: "The Witch" director Robert Eggers' eerie new movie "The Lighthouse," with Robert Pattinson and Willem Dafoe, caused a sensation at the Cannes Film Festival.

Screenshot of page which shows the results for *PageRank*.

Solr Exercise

Search: [Cannes] [Submit]

○ Lucene   ● PageRank

Results 1 - 10 of 144:

1. Title: HTML Sitemap - Los Angeles Times
   URL: https://www.latimes.com/sitemap
   ID: /Users/syjack1997/Downloads/latimes/e998ba09-d6d1-43c2-bcf8-f4f5ea4cebf7.html
   Description: N/A

2. Title: Por fin llega "Joker". Aquí un resumen de todo el drama que ha provocado - Los Angeles Times
   URL: https://www.latimes.com/espanol/entretenimiento/articulo/2019-10-04/por-fin-llega-joker-aqui-un-resumen-de-todo-el-drama-que-ha-provocado
   ID: /Users/syjack1997/Downloads/latimes/1028fd3c-2c92-4757-9dfc-72c48b76c54a.html
   Description: "Joker", la nueva historia de origen villano de Warner Bros. protagonizada por Joaquín Phoenix, ha suscitado mucho interés y controversia.

3. Title: Four documentaries to watch as the race to the Oscars begins - Los Angeles Times
   URL: https://www.latimes.com/entertainment-arts/movies/story/2019-11-08/documentaries-apollo-11-the-cave-sea-of-shadows-honeyland
   ID: /Users/syjack1997/Downloads/latimes/8311c79f-826e-47d3-9120-77a6307aa7f2.html
   Description: 'The Cave,' 'Apollo 11,' 'Honeyland' and 'Sea of Shadows' explore vastly different worlds with equal intensity

4. Title: Chloë Sevigny's five favorite frocks - Los Angeles Times
   URL: https://www.latimes.com/lifestyle/gallery/chloe-sevignys-five-favorite-frocks
   ID: /Users/syjack1997/Downloads/latimes/67366330-8ccc-4ccf-ba43-b742cce044d7.html
   Description: Actor-director Chloë Sevigny recaps some of her most memorable red-carpet moments.

5. Title: Film Festivals - Los Angeles Times
   URL: https://www.latimes.com/topic/film-festivals
   ID: /Users/syjack1997/Downloads/latimes/df1198af-5e51-4edf-af23-054ad64b2616.html
   Description: Los Angeles Times coverage of film festivals, including Toronto, Telluride, Sundance, Cannes and more.

6. Title: Cannes Film Festival - Los Angeles Times
   URL: https://www.latimes.com/topic/cannes-film-festival
   ID: /Users/syjack1997/Downloads/latimes/570906ea-4a63-47eb-8982-b1d1c84c96dd.html
   Description: N/A

7. Title: Genaro Molina - Los Angeles Times
   URL: https://www.latimes.com/people/genaro-molina
   ID: /Users/syjack1997/Downloads/latimes/c03e849d-711d-420b-9ae4-cb555cbc957c.html
   Description: N/A

8. Title: Whitney Houston's best friend reveals their lesbian affair - Los Angeles Times
   URL: https://www.latimes.com/entertainment-arts/music/story/2019-11-06/whitney-houston-lesbian-relationship-robyn-crawford
   ID: /Users/syjack1997/Downloads/latimes/0d3e32e7-aa41-46b1-adf2-efc06696e8e0.html
   Description: Robyn Crawford, Whitney Houston's best friend for years, says in a new memoir that they had a physical relationship — until the late singer got a record deal.

9. Title: As Apple, Disney and HBO start streaming, how will movies change? - Los Angeles Times
   URL: https://www.latimes.com/entertainment-arts/movies/story/2019-10-31/apple-disney-hbomax-streaming-movies
   ID: /Users/syjack1997/Downloads/latimes/3553f55e-aa7a-418f-aae2-bcca7cbb1c30.html
   Description: As new players like Apple, Disney and HBO bring their firepower to the streaming wars, many are wondering what implications will be for movies.

10. Title: Column: Fast fashion is hurting the planet, and you can stop it - Los Angeles Times
    URL: https://www.latimes.com/opinion/story/2019-09-17/patt-morrison-dana-thomas-fast-fashion-environment
    ID: /Users/syjack1997/Downloads/latimes/46465c76-e46f-4374-96dd-74492755f261.html
    Description: Did you know it takes 5,000 gallons of water to make a T-shirt and jeans? Patt Morrison talks with Dana Thomas about her book "Fashionopolis."

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

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'Titane' wins Palme d'Or at Cannes Film Festival, 2nd ever for female director

Cannes Film Festival awards ceremony started where it should have ended, with jury president Spike Lee announcing 'Titane' as winner of the Palme d'Or.
July 17, 2021

Even from afar, the Cannes Film Festival delivers movies worth celebrating
July 17, 2021

A Cannes away from Cannes: fewer movies, but also fewer COVID tests
July 10, 2021

Cannes Film Festival lineup features movies by Wes Anderson, Sean Penn, Leos Carax
June 3, 2021

Spike Lee to head Cannes Film Festival jury
March 16, 2021

Cannes Film Festival abandons plans for June or July postponement
April 14, 2020

Cannes: Times critics on everything you need to know about this year's festival
May 26, 2019

One thing the Cannes Film Festival jury got right: Bong Joon-ho's 'Parasite' victory
May 26, 2019

Bong Joon-ho's 'Parasite' and Mati Diop's 'Atlantics' make history at Cannes Film Festival
May 25, 2019

FEATURED

Robert Eggers, director of the smart and scary 'The Lighthouse,' sees comfort in horror

"The Witch" director Robert Eggers' eerie new movie "The Lighthouse," with Robert Pattinson and Willem Dafoe, caused a sensation at the Cannes Film Festival.
May 24, 2019
MOVIES

Review: Abdellatif Kechiche's 'Mektoub, My Love: Intermezzo' is the disaster of the Cannes Film Festival
May 23, 2019

At Cannes, genre filmmaking from 'Parasite' to 'The Wild Goose Lake' turns heads
May 22, 2019

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May 21, 2019

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Query results table

Cannes

	Lucene	PageRank
1	https://www.latimes.com/topic/cannes-film-festival	https://www.latimes.com/sitemap
2	https://www.latimes.com/entertainment/movies/la-et-mn-cannes-wrap-critics-conversation-20190526-story.html	https://www.latimes.com/espanol/entretenimiento/articulo/2019-10-04/por-fin-llega-joker-aqui-un-resumen-de-todo-el-drama-que-ha-provocado
3	https://www.latimes.com/entertainment/movies/moviesnow/la-et-mn-cannes-2015-winners-20150524-story.html	https://www.latimes.com/entertainment-arts/movies/story/2019-11-08/documentaries-apollo-11-the-cave-sea-of-shadows-honeyland
4	https://www.latimes.com/entertainment/movies/la-et-mn-cannes-film-festival-award-winners-20190525-story.html	https://www.latimes.com/lifestyle/gallery/chloe-sevignys-five-favorite-frocks
5	https://www.latimes.com/entertainment/movies/la-et-mn-cannes-parasite-atlantics-awards-20190526-story.html	https://www.latimes.com/topic/film-festivals
6	https://www.latimes.com/entertainment/movies/la-et-mn-cannes-once-upon-a-time-in-hollywood-20190522-story.html	https://www.latimes.com/topic/cannes-film-festival
7	https://www.latimes.com/entertainment/movies/la-ca-mn-cannes-genre-parasite-wild-goose-lake-tarantino-20190522-story.html	https://www.latimes.com/people/genaro-molina
8	https://www.latimes.com/entertainment/movies/la-et-mn-cannes-mektoub-my-love-intermezzo-abdellatif-kechiche-20190523-story.html	https://www.latimes.com/entertainment-arts/music/story/2019-11-06/whitney-houston-lesbian-relationship-robyn-crawford
9	https://www.latimes.com/entertainment/movies/la-et-mn-cannes-quentin-tarantino-once-upon-a-time-in-hollywood-20190521-story.html	https://www.latimes.com/entertainment-arts/movies/story/2019-10-31/apple-disney-hbomax-streaming-movies
10	https://www.latimes.com/entertainment/movies/la-et-mn-cannes-robert-eggers-the-lighthouse-robert-pattinson-20190524-story.html	https://www.latimes.com/opinion/story/2019-09-17/patt-morrison-dana-thomas-fast-fashion-environment

Congress

	Lucene	PageRank
1	https://www.latimes.com/opinion/enterthefray/la-ol-new-york-rhode-island-congress-marijuana-20190116-story.html	https://www.latimes.com/opinion
2	https://www.latimes.com/politics/story/2019-10-28/jerry-brown-to-testify-to-congress-rebutting-trumps-criticism-of-california	https://www.latimes.com/espanol/politica
3	https://www.latimes.com/politics/la-na-pol-congress-sexual-harassment-20181212-story.html	https://www.latimes.com/politics/story/2019-11-08/michael-bloomberg-files-papers-for-2020-democratic-presidential-primary
4	https://www.latimes.com/politics/la-pol-ca-richest-california-lawmakers-20180305-story.html	https://www.latimes.com/opinion/story/2019-11-09/facebook-twitter-political-ads-lies
5	https://www.latimes.com/politics/story/2019-09-09/congress-gun-control-government-shutdown	https://www.latimes.com/politics/story/2019-11-08/elizabeth-warren-used-bare-knuckle-tactics-to-take-down-an-obama-nominee
6	https://www.latimes.com/opinion/story/2019-10-16/democratic-debate-trump-congress-executive-action	https://www.latimes.com/opinion/story/2019-11-09/devin-nunes-impeachment-witness-list
7	https://www.latimes.com/politics/story/2019-10-14/trump-ukraine-aid-congress-impeachment	https://www.latimes.com/environment/story/2019-11-08/eastern-sierra-towns-recreation-tourism-forest-service
8	https://www.latimes.com/politics/la-na-pol-congress-bioweapons-detection-system-20190414-story.html	https://www.latimes.com/politics/story/2019-11-08/steve-bannon-roger-stone-trump-campaign-wikileaks
9	https://www.latimes.com/politics/la-na-pol-congress-mueller-pressure-impeachment-20190529-story.html	https://www.latimes.com/opinion/story/2019-11-08/impeachment-trump-republicans-toomey
10	https://www.latimes.com/politics/la-pol-ca-richest-in-congress-darrell-issa-story.html	https://www.latimes.com/politics/story/2019-11-08/alexander-vindman-fiona-hill-impeachment-transcripts

Democrats

	Lucene	PageRank
1	https://www.latimes.com/politics/story/2019-11-07/house-democrats-subpoena-mick-mulvaney-in-impeachment-probe	https://www.latimes.com/california
2	https://www.latimes.com/opinion/story/2019-11-05/impeachment-donald-trump-democrats-political-cost-elections	https://www.latimes.com/opinion
3	https://www.latimes.com/politics/story/2019-11-03/iowa-democrats-candidate-beat-trump	https://www.latimes.com/politics
4	https://www.latimes.com/politics/story/2019-10-17/democrats-quick-impeachment-timing-complicated	https://www.latimes.com/politics/story/2019-11-08/michael-bloomberg-files-papers-for-2020-democratic-presidential-primary
5	https://www.latimes.com/politics/story/2019-10-08/impeachment-trump-democrats-whistleblower-identity-testimony	https://www.latimes.com/politics/story/2019-11-08/democratic-primary-debate-moves-from-ucla-to-loyola-marymount-university
6	https://www.latimes.com/politics/story/2019-09-24/democrats-and-pelosi-appear-close-to-tipping-point-on-impeachment	https://www.latimes.com/politics/story/2019-11-08/elizabeth-warren-used-bare-knuckle-tactics-to-take-down-an-obama-nominee
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9	https://www.latimes.com/nation/ct-democrats-economic-plan-20170824-story.html	https://www.latimes.com/politics/story/2019-11-08/steve-bannon-roger-stone-trump-campaign-wikileaks
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Patriot Movement

	Lucene	PageRank
1	https://www.latimes.com/archives/la-xpm-2012-oct-23-la-me-russell-means-20121023-story.html	https://www.latimes.com/environment
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3	https://www.latimes.com/archives/la-xpm-2001-jun-10-mn-8792-story.html	https://www.latimes.com/california/story/2019-11-09/prop-187-anniversary-commemoration
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6	https://www.latimes.com/politics/story/2019-09-20/bernie-sanders-muslim-voters-2020	https://www.latimes.com/food/story/2019-11-07/kung-pao-chicken-history-recipe-gong-bao
7	https://www.latimes.com/sports/nba/la-sp-nba-best-game-ever-20181222-story.html	https://www.latimes.com/obituaries/story/2019-11-04/james-stern-obit-black-activist-who-led-neo-nazi-group-dies-amid-bid-to-destroy-it
8	https://www.latimes.com/sports/highschool/story/2019-11-06/girls-tennis-southern-section-playoff-results-and-updated-pairings	https://www.latimes.com/topic/column-one
9	https://www.latimes.com/entertainment/movies/la-et-mn-july-4-box-office-history-20180629-story.html	https://www.latimes.com/topic/mexico-americas
10	https://www.latimes.com/entertainment/movies/la-et-mn-july-4-box-office-history-20180629-story.html	https://www.latimes.com/topic/museums

Republicans

	Lucene	PageRank
1	https://www.latimes.com/opinion/story/2019-10-23/house-republicans-storm-hearing-impeachment	https://www.latimes.com/
2	https://www.latimes.com/politics/story/2019-10-30/democrats-hoped-theyd-win-over-republicans-on-impeachment-but-its-not-looking-that-way-so-far	https://www.latimes.com/opinion
3	https://www.latimes.com/opinion/story/2019-11-08/impeachment-trump-republicans-toomey	https://www.latimes.com/opinion/la-letter-to-the-editor-htmlstory.html
4	https://www.latimes.com/politics/story/2019-10-04/vulnerable-senate-republicans-impeachment	https://www.latimes.com/opinion/story/2019-11-09/facebook-twitter-political-ads-lies
5	https://www.latimes.com/california/story/2019-10-16/california-republicans-democrats-wildfires-homelessness	https://www.latimes.com/opinion/story/2019-11-08/berlin-wall-30th-anniversary-cold-war-donald-trump
6	https://www.latimes.com/politics/story/2019-10-23/impeachment-deposition-room-stormed-by-republicans	https://www.latimes.com/politics/story/2019-11-08/elizabeth-warren-used-bare-knuckle-tactics-to-take-down-an-obama-nominee
7	https://www.latimes.com/opinion/story/2019-09-17/california-republicans-trump-fundraising-president	https://www.latimes.com/opinion/story/2019-11-09/elizabeth-warren-trump
8	https://www.latimes.com/politics/story/2019-10-28/katie-hill-resignation-trump-obstacle-for-republicans	https://www.latimes.com/opinion/story/2019-11-09/devin-nunes-impeachment-witness-list
9	https://www.latimes.com/opinion/story/2019-11-06/trump-republicans-democrats-predictions-polling-2020	https://www.latimes.com/opinion/story/2019-11-09/sat-uc-college-admissions
10	https://www.latimes.com/politics/story/2019-11-06/republicans-election-trump-candidate-loses-kentucky	https://www.latimes.com/opinion/story/2019-11-08/impeachment-trump-republicans-toomey

Senate

	Lucene	PageRank
1	https://www.latimes.com/politics/story/2019-11-07/gop-is-already-thinking-about-how-to-turn-a-senate-impeachment-trial-to-trumps-advantage	https://www.latimes.com/
2	https://www.latimes.com/politics/story/2019-10-30/california-donors-spend-millions-on-2020-senate-races-across-the-country	https://www.latimes.com/opinion
3	https://www.latimes.com/politics/story/2019-10-04/vulnerable-senate-republicans-impeachment	https://www.latimes.com/california/story/2019-11-09/prop-187-anniversary-commemoration
4	https://www.latimes.com/politics/la-na-pol-kavanaugh-hearing-20180927-story.html	https://www.latimes.com/opinion/la-letter-to-the-editor-htmlstory.html
5	https://www.latimes.com/nation/la-pol-scotus-confirmation-votes-over-the-years-20181005-htmlstory.html	https://www.latimes.com/opinion/story/2019-11-09/facebook-twitter-political-ads-lies
6	https://www.latimes.com/politics/story/2019-08-14/2020-senate-control-presidential-race	https://www.latimes.com/opinion/story/2019-11-08/berlin-wall-30th-anniversary-cold-war-donald-trump
7	https://www.latimes.com/politics/story/2019-08-14/john-hickenlooper-quits-presidential-race-for-senate-run	https://www.latimes.com/politics/story/2019-11-08/elizabeth-warren-used-bare-knuckle-tactics-to-take-down-an-obama-nominee
8	https://www.latimes.com/politics/story/2019-10-30/california-donors-spend-millions-on-2020-senate-races-across-the-country	https://www.latimes.com/opinion/story/2019-11-09/elizabeth-warren-trump
9	https://www.latimes.com/politics/la-na-pol-william-barr-senate-confirm-attorney-general-20190214-story.html	https://www.latimes.com/opinion/story/2019-11-09/devin-nunes-impeachment-witness-list
10	https://www.latimes.com/opinion/story/2019-10-15/wmcaleen-homeland-security-trump-nielsen-senate-acting-secretary	https://www.latimes.com/opinion/story/2019-11-09/sat-uc-college-admissions

Olympics 2020

	Lucene	PageRank
1	https://www.latimes.com/sports/olympics/story/2019-08-15/2020-tokyo-olympics-searching-for-answers-amid-heat-wave	https://www.latimes.com/
2	https://www.latimes.com/sports/olympics	https://www.latimes.com/sitemap
3	https://www.latimes.com/people/david-wharton	https://www.latimes.com/sports
4	https://www.latimes.com/people/david-wharton	https://www.latimes.com/opinion
5	https://www.latimes.com/sports/olympics/story/2019-10-16/2020-tokyo-olympics-marathon-sapporo-avoid-heat	https://www.latimes.com/business
6	https://www.latimes.com/sports/olympics/story/2019-07-31/deadly-heat-wave-2020-summer-olympics-tokyo	https://www.latimes.com/entertainment-arts
7	https://www.latimes.com/sports/story/2019-11-05/ioc-anti-doping-2020-tokyo-olympics	https://www.latimes.com/world-nation
8	https://www.latimes.com/sports/olympics/story/2019-10-10/naomi-osaka-chooses-japan-over-u-s-2020-tokyo-olympics	https://www.latimes.com/environment
9	https://www.latimes.com/sports/story/2019-07-23/tokyos-rough-road-to-2020-summer-olympics	https://www.latimes.com/newsroom-directory
10	https://www.latimes.com/people/david-wharton	https://www.latimes.com/politics

Stock

	Lucene	PageRank
1	https://www.latimes.com/business/story/2019-11-06/uber-lock-up-period-ends-with-falling-stock-protests	https://www.latimes.com/
2	https://www.latimes.com/business/la-fi-lyft-stock-20190401-story.html	https://www.latimes.com/business
3	https://www.latimes.com/business/la-fi-hy-tesla-stock-20160518-snap-story.html	https://www.latimes.com/business/real-estate
4	https://www.latimes.com/business/story/2019-11-06/uber-lock-up-period-ends-with-falling-stock-protests	https://www.latimes.com/business/real-estate/story/2019-11-09/hulu-looking-for-alaska-landry-bender
5	https://www.latimes.com/business/story/2019-11-09/stock-managers-who-played-defense-in-2019-are-left-scrambling-to-make-up-ground	https://www.latimes.com/business/story/2019-11-08/trump-china-tariffs
6	https://www.latimes.com/business/la-fi-uber-ipo-stock-trading-price-20190510-story.html	https://www.latimes.com/business/real-estate/story/2019-11-09/hot-property-very-brady-sale-malibu
7	https://www.latimes.com/business/story/2019-09-09/at-t-stock-surges-elliott-reveals-3-2-billion-stake	https://www.latimes.com/politics/story/2019-11-08/elizabeth-warren-used-bare-knuckle-tactics-to-take-down-an-obama-nominee
8	https://www.latimes.com/business/la-fi-stock-market-status-update-20180209-story.html	https://www.latimes.com/business/real-estate/story/2019-11-09/hot-property-newsletter-rifleman-leads-the-posse-on-a-little-mosey-down-memory-lane
9	https://www.latimes.com/business/la-fi-stock-market-correction-20180212-story.html	https://www.latimes.com/business/story/2019-11-09/stock-managers-who-played-defense-in-2019-are-left-scrambling-to-make-up-ground
10	https://www.latimes.com/business/story/2019-11-09/stock-managers-who-played-defense-in-2019-are-left-scrambling-to-make-up-ground	https://www.latimes.com/business/story/2019-11-08/gap-ceo-was-done-in-by-fashion-missteps-and-fading-brands

Virus

	Lucene	PageRank
1	https://www.latimes.com/espanol/internacional/articulo/2019-11-09/monos-se-volvieron-inmunes-tras-inocularles-virus-del-ebola-con-mutacion	https://www.latimes.com/terms-of-service
2	https://www.latimes.com/science/sciencenow/la-sci-science-of-zika-five-ways-20160223-htmlstory.html	https://www.latimes.com/espanol/
3	https://www.latimes.com/espanol/internacional/articulo/2019-11-09/monos-se-volvieron-inmunes-tras-inocularles-virus-del-ebola-con-mutacion	https://www.latimes.com/science
4	https://www.latimes.com/science/story/2019-10-21/virus-afm-illness-paralyzing-kids	https://www.latimes.com/espanol/internacional
5	https://www.latimes.com/science/story/2019-10-21/virus-afm-illness-paralyzing-kids	https://www.latimes.com/espanol/deportes/articulo/2019-11-09/como-ser-campeon-de-league-of-legends
6	https://www.latimes.com/socal/daily-pilot/news/tn-dpt-me-west-nile-20170707-story.html	https://www.latimes.com/business/story/2019-10-13/body-parts-harvesting-hinders-coroner-autopsies
7	https://www.latimes.com/science/sciencenow/la-sci-sn-acute-flaccid-myelitis-polio-20181017-story.html	https://www.latimes.com/espanol/mexico/articulo/2019-11-09/crean-en-mexico-plataforma-para-medir-impacto-ambiental-de-basura-electronica
8	https://www.latimes.com/local/lanow/la-me-ln-virulent-newcastle-disease-outbreak-in-southern-california-20190607-story.html	https://www.latimes.com/espanol/internacional/articulo/2019-11-09/el-nuevo-mitsubishi-mirage-pudiera-arribar-a-mediados-del-proximo-ano
9	https://www.latimes.com/world-nation/story/2019-09-04/anti-vaxxers-helping-polio-comeback-pakistan	https://www.latimes.com/espanol/internacional/articulo/2019-11-09/monos-se-volvieron-inmunes-tras-inocularles-virus-del-ebola-con-mutacion
10	https://www.latimes.com/local/obituaries/la-me-deborah-asnis-20150921-story.html	https://www.latimes.com/espanol/internacional/articulo/2019-11-09/una-tortuga-tecnologica-para-detectar-microplasticos-en-los-oceanos

Overlap statistics

Query	Overlap
Cannes	1
Congress	0
Democrats	0
Patriot Movement	0
Republicans	1
Senate	0
Olympics 2020	0
Stock	2
Virus	2