

CS525

Information Retrieval & Social Web

Homework 2

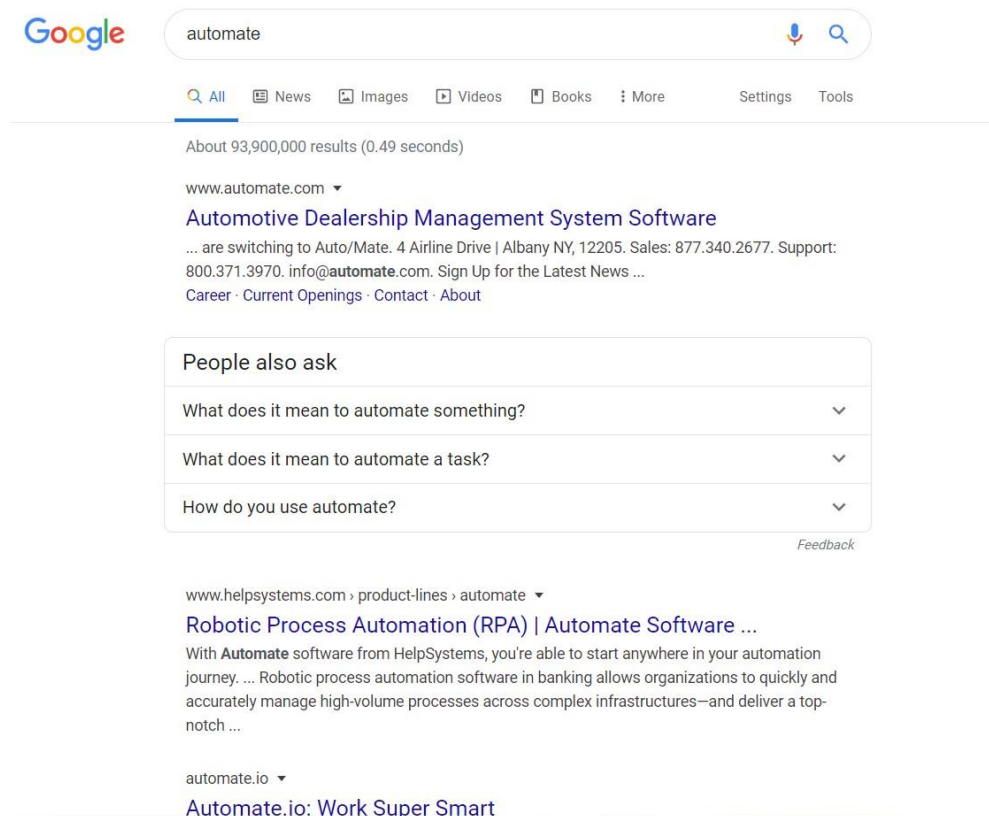
Submitted by: Kratika Agrawal

Short-Answer Questions:

1. I did this analysis on Google.

a. Google uses Stemming.

I searched for many words with its several form. One of the example that I searched is the keyword: automate



Since the result consists of all words like automotive, automation, etc. related to automate, it means that Google uses Stemming in its search queries.

- b. When I searched for two of the sentences- Search query 1: **what is the capital of India**


Google

what is the capital of India

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About 2,490,000,000 results (1.33 seconds)

India / Capital



New Delhi

The capital city or the National Capital Territory (NCT) of India is **New Delhi**. Delhi is divided into two parts; the Old Delhi and **New Delhi**. The Old Delhi was founded in 1639 while the **New Delhi** was established on December 15, 1911. Aug 9, 2018

[www.worldatlas.com](http://www.worldatlas.com/articles/what-is-the-capital-of-india) › articles › what-is-the-capital-of-india

And Search query 2: **what capital India**


Google

what capital India

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About 1,900,000,000 results (1.16 seconds)

India / Capital



New Delhi

The capital of India is **New Delhi**. **New Delhi** hosts the President's official residence, known as Rashtrapati Bhavan. India, also known as the Republic of India is located in South Asia. India is the 7th largest country and the second most populous country in the world. Aug 9, 2018

[www.worldatlas.com](http://www.worldatlas.com/articles/what-is-the-capital-of-india) › articles › what-is-the-capital-of-india

[What is the Capital of India? - WorldAtlas.com](http://www.worldatlas.com/articles/what-is-the-capital-of-india)

I get the same results. With this we can say that google filters stop words.

However, with another search:

Search query 1: **range between europe and asia**

Google

range between europe and asia

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About 957,000,000 results (0.82 seconds)

The Ural Mountains and the Caucasus Mountains separate **Europe** from **Asia**.

study.com › academy › answer › what-2-mountain-ranges-separate-euro...
[What 2 mountain ranges separate Europe and Asia? | Study ...](#)

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What is the border between Europe and Asia? ▾

Where does Europe end and Asia begin? ▾

Are Europe and Asia the same continent? ▾

Feedback

en.wikipedia.org › wiki › Boundaries_between_the_continents_of_Ea... ▾
[Boundaries between the continents of Earth - Wikipedia](#)
The boundaries **between** the continents of Earth are generally a matter of geographical convention. Several slightly different conventions are in use. The number of continents is most commonly considered seven but may **range ... between Europe and Asia** (dividing Eurasia): along

And Search query 2: **range europe asia**

Google

range europe asia

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About 725,000,000 results (0.79 seconds)

en.wikipedia.org › wiki › Geography_of_Europe ▾
[Geography of Europe - Wikipedia](#)
Jump to **Mountain ranges** - **Europe** is traditionally defined as one of seven continents. ...
Caucasus Mountains, which also separate **Europe** and **Asia** ...
Overview · Rivers · Temperature and ... · Landlocked countries

en.wikipedia.org › wiki › Boundaries_between_the_continents_of_Ea... ▾
[Boundaries between the continents of Earth - Wikipedia](#)
The boundaries between the continents of Earth are generally a matter of geographical convention. Several slightly different conventions are in use. The number of continents is most commonly considered seven but may **range ... between Europe and Asia** (dividing Eurasia): along the Turkish Straits, the Caucasus and the ...

www.wordplays.com › crossword-solver › europe-asia-range
[europe asia range Crossword Clue, Crossword Solver ...](#)
Answers for **europe asia range** crossword clue. Search for crossword clues found in the Daily Celebrity, NY Times, Daily Mirror, Telegraph and major ...

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What mountain range divides Europe from Asia? ▾

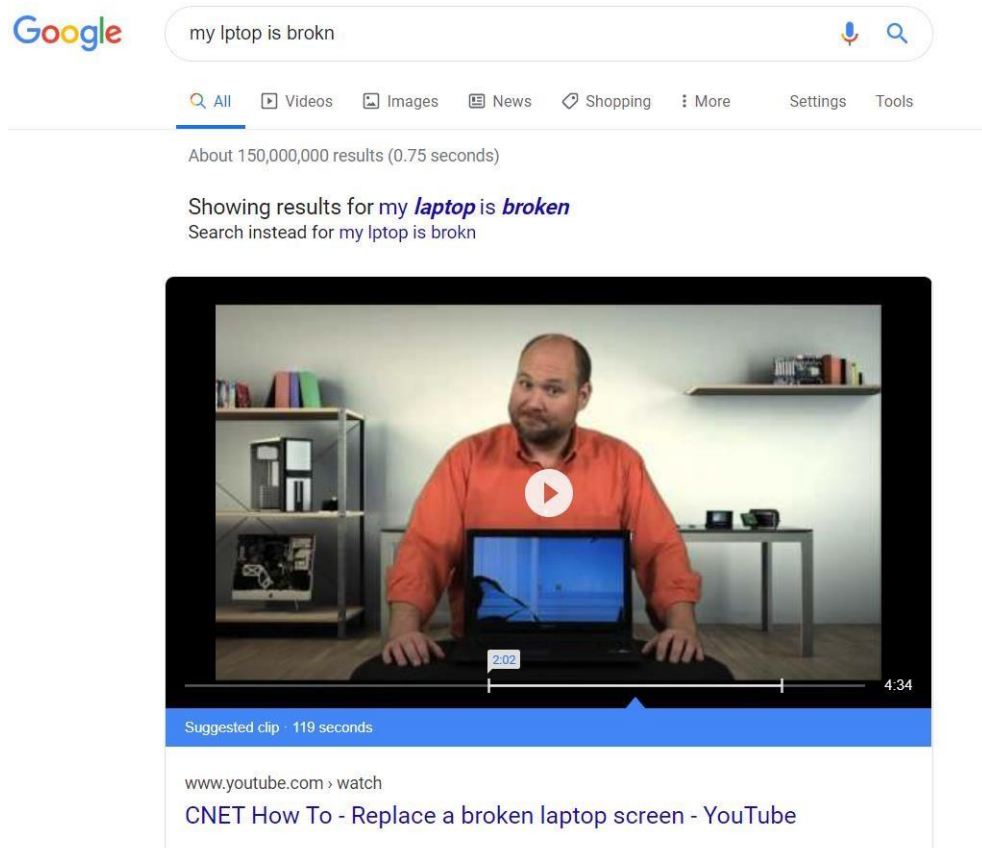
Both searches result in different results. **This shows that Google filters stop words, but the stop word list of Google is very small, meaning, it filters only very common words and keeps everything else.**

- c. Google uses spell correction.

With search of a wrongly spelled sentence/word, google shows results with correct spelled word search:

For Example, my search: **my lptop is brokn**

Google shows results with correct words and displays the message as well with the correction.



2. Precision and Recall:

- a. Precision = $14/30 = 0.4667$
- b. Recall = $14/80 = 0.175$