

## Web Crawler Knowledge Base Report:

To create our knowledge base around Magnus Carlsen, we first navigated the crawler to his wikipedia page and then gathered all the relevant links (english links that had carlsen's name and was not from chessbomb since those were just replays of his matches rather than descriptions), selecting 15 of them to proceed with. Once the links had been collected, we scraped the visible contents of each page and tokenized the sentences, treating each end of line (or newline) character as a period if punctuation was not already given. Afterwards, we cleaned the sentences and saved the preprocessed version of the text as separate files for each website. We then scanned the files for the overall 25 most common words and from those selected 10 that we felt were most important for the topic of Magnus Carlsen. This gave us the basis for the knowledge base; the terms. Once we had those 10 terms, we then built the knowledge base itself as a table where each row was a sentence from one of the texts and each column corresponded to one of the 10 words. Each table entry was a boolean value where True signified that the respective sentence included the respective word for that row and column, dumping all the sentences that didn't include any of the words. This was a way of efficiently storing a set of sentences for each word without duplicates, thus creating our knowledge base.

Sample Dialog (Let person be denoted as P, bot denoted as B)

P: Who is Magnus Carlsen?

B: Sven Magnus en Carlsen (Magnus Carlsen), born 30 November 1990, is a Norwegian chess grandmaster who is the reigning five-time World Chess Champion.

P: When did Magnus Carlsen become world champion?

B: He was one of TIMEs 100 most influential people in 2013, the year of his first world championship.

P: Is Magnus Carlsen better than Hikaru Nakamura in chess?

B: Yes. After a tournament, Carlsen played a private 40-game blitz match against Hikaru Nakamura, winning with a score of 24-15. Playing both blitz and bullet chess for a total of three hours, Carlsen defeated Nakamura 14 to 10 and became the first winner of the Chess.com Grandmaster Blitz Battle Championship.

P: What are some tournaments Carlsen has won?

B: Carlsen has won the tournaments including the Tata Steel, London chess classic, and the Grand Chess tour.

P: What is Magnus Carlsen's chess rating?

B: Even after last years world championship, where he won 7.5 of 11 games against the fifth-ranked player in the world ( rated 2782 ), Carlsens rating jumped by just 9 points, from 2856 to 2865.

Top 10 words: Carlsen, chess, tournament, wins, championship, rapid, blitz, classical, win, world

A	B	C	D	E	F	G	H	I	J	K
	carlsen	chess	tournamee wins	tourname wins	champion rapid	blitz	classical	win	world	
ing chess now probably more than ever" .	false	true	false	false	false	false	false	false	false	false
was achieved in the Tal Memorial in Moscow 1625 November as a round robin with ten players.	false	true	false	false	false	false	false	false	false	false
ow his win over Hikaru Nakamura, Carlsen was asked about his chances to win overall.	false	true	false	false	false	false	false	false	false	false
wins Tata Steel Chess Tournament 2022" .	false	false	true	false	false	false	false	false	false	false
o figure out what move comes next, and then he sips wine and stares at the board, while the rest of us rack our brains or sit there hopelessly.	false	false	false	false	false	false	false	false	true	false
Kramnik with 4/6.	false	false	false	true	false	false	false	false	true	false
aved three chances to let chess engine Houdini propose a move during the game.	false	true	false	false	false	false	false	false	false	false
nament, Carlsen scored 4/5, beating Mamedyarov and Nakamura again, and securing the tournament victory by beating Caruana in the final round, finishing with +52=3.	false	false	true	false	false	false	false	false	false	false
earl Spring with 3002 performance" .	false	false	false	true	false	false	false	false	true	false
s and I am looking forward to exploring it.	false	true	false	false	false	false	false	false	true	false
e were against Ivanchuk and Svidler, who both had better results than Gelfand and Nakamura (Carlsen's two victims).	false	true	false	false	false	false	false	false	false	false
vary between modern & legacy browsers.	false	false	false	true	false	false	false	false	true	false
it not against him.	false	false	false	false	false	false	false	false	true	false
er Viswanathan Anand in the semi-finals and achieved the same score in the finals.	false	false	false	false	false	false	false	false	true	false
arpov to win many tournaments since his title came by default; made him a bastard to the Steintz blood-line of champions since he hadn't dethroned Fischer in battle.	false	false	true	false	false	false	false	false	true	false
d helped everyone improve their understanding of chess so much.	false	true	true	false	false	false	false	false	false	false
cy will be the effect Kasparov described - he became a global ambassador to chess and, with his international renown, helped bring it into mainstream popular culture .	false	true	false	false	false	false	false	false	false	false
nces ever by an American, Hikaru Nakamura finished ahead of the worlds top four players, including Viswanathan Anand, the world champion.	false	false	false	false	false	false	false	false	false	true
nts, open tournaments, people should be allowed to do whatever they want.	false	false	true	false	false	false	false	false	false	false
I thought or speculated: the winner on tiebreak... (558).	false	false	false	false	false	false	false	false	true	false
u will need as a dedicated chess enthusiast.	false	true	false	false	false	false	false	false	false	false
al online chess tournament," the eight-player rapid tournament was held from 18 April to 3 May, with a \$250,000 prize fund.	false	true	true	false	false	true	false	false	false	false
s has imbedded itself in the world's culture and vocabulary.	false	true	false	false	false	false	false	false	false	true
ading up to a rapid knockout tournament beginning the next day.	false	false	true	false	false	true	false	false	false	false
n misses win in exciting finale" .	false	false	false	false	false	false	false	false	true	false
atch 2822, with Carlsen achieving the best individual score for the Rising Stars team (6/10) and a 2700 PR, thus winning the right to participate in the 2007 Melody Amber tournament.	false	false	true	false	false	false	false	false	true	false
live rapid rating in history after the tournament, and was at that point ranked No.	false	false	true	false	false	true	false	false	false	false
	false	true	false	false	false	false	false	false	false	false
o complete triple crown" .	false	false	false	true	false	false	false	false	true	false
o improve my chess" .	false	true	false	false	false	false	false	false	false	false
	false	true	false	false	false	false	false	false	false	false
ention, Anand was very lucky not to be knocked out - Sasikiran missed a two move pin and win of a piece.	false	false	true	false	false	true	false	false	true	false
and our fellow chess players.	false	true	false	false	false	false	false	false	false	false
left stenstad the champion because he had superior tiebreaks in the tournament.	false	false	true	false	false	false	false	false	false	false
abiano Caruana completed one of the most impressive feats in chess history.	false	true	false	false	false	false	false	false	false	false
n announced that "Unless Firozja wins the Candidates Tournament, it is unlikely that I will play the next world championship match."	false	false	false	true	true	false	false	false	true	true
at top of world rankings with Isle of Man win" .	false	false	false	false	false	false	false	false	true	true
n and theres no better time than the present, given how much the realm of whats possible in chess has expanded since Carlsen became the face of the sport.	false	true	false	false	false	false	false	false	false	false
Chessable, an interactive marketplace and platform for learning chess, in September 2019.	false	true	false	false	false	false	false	false	false	false
ess Challenge in Gjøvik" .	false	false	false	true	false	false	false	false	true	false
the Norwegian junior teams championship in September 2000, where he scored 3/5 against the country's top junior players and gained a tournament performance rating (TPR) of around 2000.	false	false	true	false	true	false	false	false	false	false
a rapid tournament 2830 August at the Arctic Securities Chess Stars tournament in Kristiansund, Norway.	false	false	true	false	false	true	false	false	false	false
ning here and at the same time renewing his openingtheory.	false	false	false	false	false	false	false	false	true	false
yso much, in most tournaments that goes for several players apart from the winner.	false	false	true	false	false	false	false	false	true	false
e first day of blitz: "Everything's going wrong.	false	false	false	false	false	true	false	false	false	false
ements, championships, portraits, interviews, World Championships, product launches and more.	false	true	true	false	true	false	false	false	false	false
win Wijk aan Zee 2008" .	false	false	false	false	false	false	false	false	true	false
is award" .	false	false	false	true	false	false	false	false	true	false
rowned new chess king" .	false	true	false	false	false	false	false	false	false	false
d 9.5/11 and Aronian 7/11, while Anand scored the same 6/11 as Topalov after losing against Aronian, Ivanchuk and Carlsen.	false	false	false	false	false	true	false	false	false	false
rlsen wins fifth title" .	false	false	false	true	false	false	false	false	true	false
Wang Yue, and Topalov with white, Carlsen took the early lead, extending his winning streak with white in Nanjing to eight.	false	false	false	true	false	false	false	false	true	false
he competed in the sixth edition of Norway Chess, placing second with 4/8 (+21=5), half a point behind winner Caruana.	false	false	false	false	false	false	false	false	true	false
n a classical time limit World Chess Championship game in more than 5 years and at 136 moves was also the longest game in World Chess Championship history.	false	false	false	false	false	false	false	true	false	false
part, but they have more in common than they seem and they reinforce each other, said Myra Rooselaar, chairwoman of the Tata Steel Chess tournament.	false	false	true	false	false	false	false	false	false	false