

PPC = ZOL = $\mathcal{L}_0$ via Return to *Logical Journey of the Zoombinis*

Selmer Bringsjord

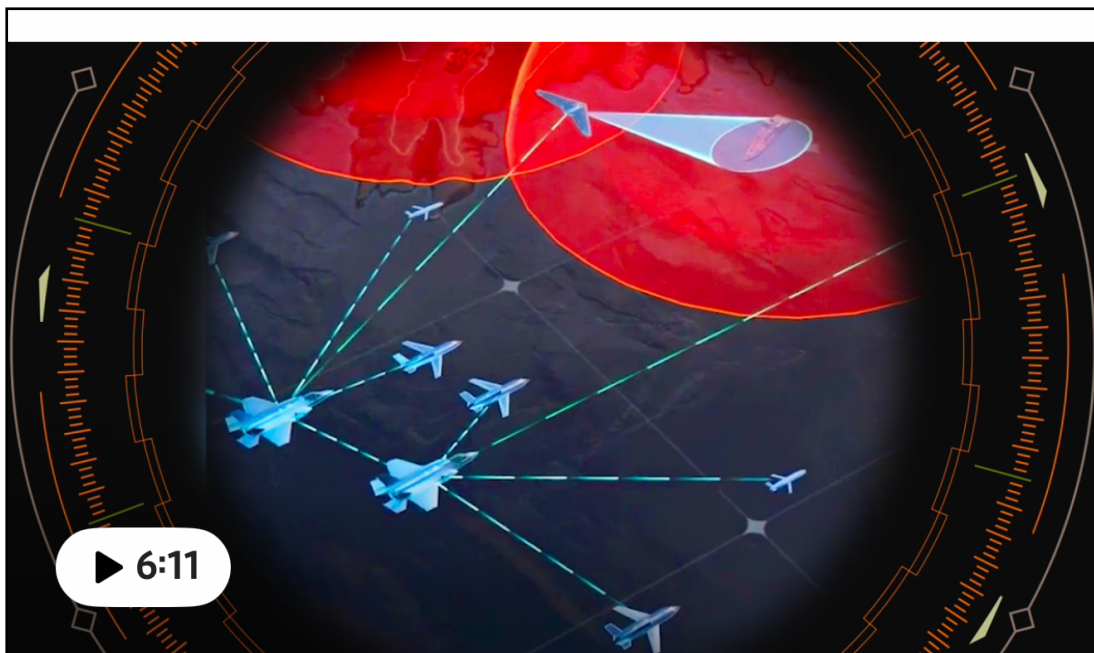
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Intro to Logic-based AI
9/22/2025



Logic-and-AI in the news

...



▶ 6:11

Lockheed Martin Is Betting on New F-35 Drone Tech for Future Flights

Lockheed Martin is developing new technology to allow F-35 fighter pilots to control drones. WSJ toured the company's Fort Worth, Texas, facility to see the jets and futuristic tech.



On my tablet, it looked more like this.



is unveiling new technology for the cockpit,

PPC = $\mathcal{L}_0$ Reasoning

...

In Zoombinis ...

Creating 3 Zoombinis

Jakneede

Laghounge

Ocruko



In Our Book ...

Larry

Larry attended Hotchkiss before entering Harvard, from which he graduated with a degree in Scandinavian Studies. He aspires to be a Diplomat representing the United States to Sweden. Larry is from a rather wealthy family: his trust fund is valued at \$7 billion; his father collects exotic islands, his mother precursor-to-Impressionism masterpieces, and his three bachelor brothers, fast, classic European luxury sedans capable of heart-pounding top speeds. Larry's command of math never exceeded what is covered on the SAT, and he has long forgotten even this material. He does not understand what a computer or computer program is, but nonetheless makes continuous use of social networking technology, including specifically **facebook**, on which he is liked by four people, all in his nuclear family, save for one, and that one is a brilliant female with a penchant for driving fast European sedans *really* fast. Say what you will about Larry, he is arrestingly eloquent without notes of any kind when speaking about geopolitics, in any venue; knows perhaps more about the history of Northern Europe (including its mythology) than any man alive; and while in keeping with his upbringing is a Hayekian capitalist, is rumored to generously donate millions each year to Big Brothers Big Sisters, AA, and Samaritan's Purse.



Lucy

Lucy is a brilliant but poor hacker from a broken, impoverished home in Buffalo NY. A motherless only child raised by a single, devoted father who made ends meet (between binges on the bottle) as a brilliant but itinerant Daimler mechanic, she saw more heartache in her youth than that catalogued in a thousand country-song sagas. As a sophomore at MIT, she (successfully) petitioned to move directly to the PhD program in computer science without having to suffer the — to use her words — “torturous tedium” of the junior and senior years. This rapid “ascension” was all the more remarkable because her first year in college was not spent at MIT, but at Erie Community College, where on day one of *Java 101*, the professor insisted she come to her office after class, whereupon was launched a tutor-student relationship that initially centered not around not Java, but the language for which Professor Kuth has a secret passion: Prolog. Lucy has consistently rebuffed the overtures of all males at MIT, a group she disdains for their universally poor command of matters computational. Lucy stays in touch with her father by email (and as of this writing has managed to maintain her atheism despite his conversion and testimony), and with but five friends on **facebook**, one of whom has attended an Ivy-League institution, and one of whom, an entrepreneur co-running a startup company in the mobile computing space, attends a likewise techie university 2.5-hrs-drive to-the-west-of MIT.



Key

'Larry' :: larry
'Lucy' :: lucy
'Virginia' :: virginia
'Prescott' :: prescott
'Hank' :: hank
'Abe' :: abe
'Ben' :: ben
'Charles' :: charles
'Christian' :: christian
'Harvard' :: harvard
'MIT' :: mit
'RPI' :: rpi
'Rensselaer' :: rensselaer

father-of is a function; eg we can say: (father-of lucy)

brother-of is a function; eg we can say: (brother-of larry)

x is rich iff (Rich x)

x is employed at y iff (EmployedAt x y)

x is west of y iff (WestOf x y)

x attends y iff (Attends x y)

x had i-contact with y iff (IContact x y)

x facebook-likes y iff (F-Likes x y)

x truly likes y iff (T-Likes x y)

x is an alum of y iff (Alum x y)

x is a hacker iff (Hacker x)

x is computationally sophisticated iff (Comp-Soph x)

x is a female iff (Female x)

x is a generous iff (Generous x)

x is eloquent iff (Eloquent x)

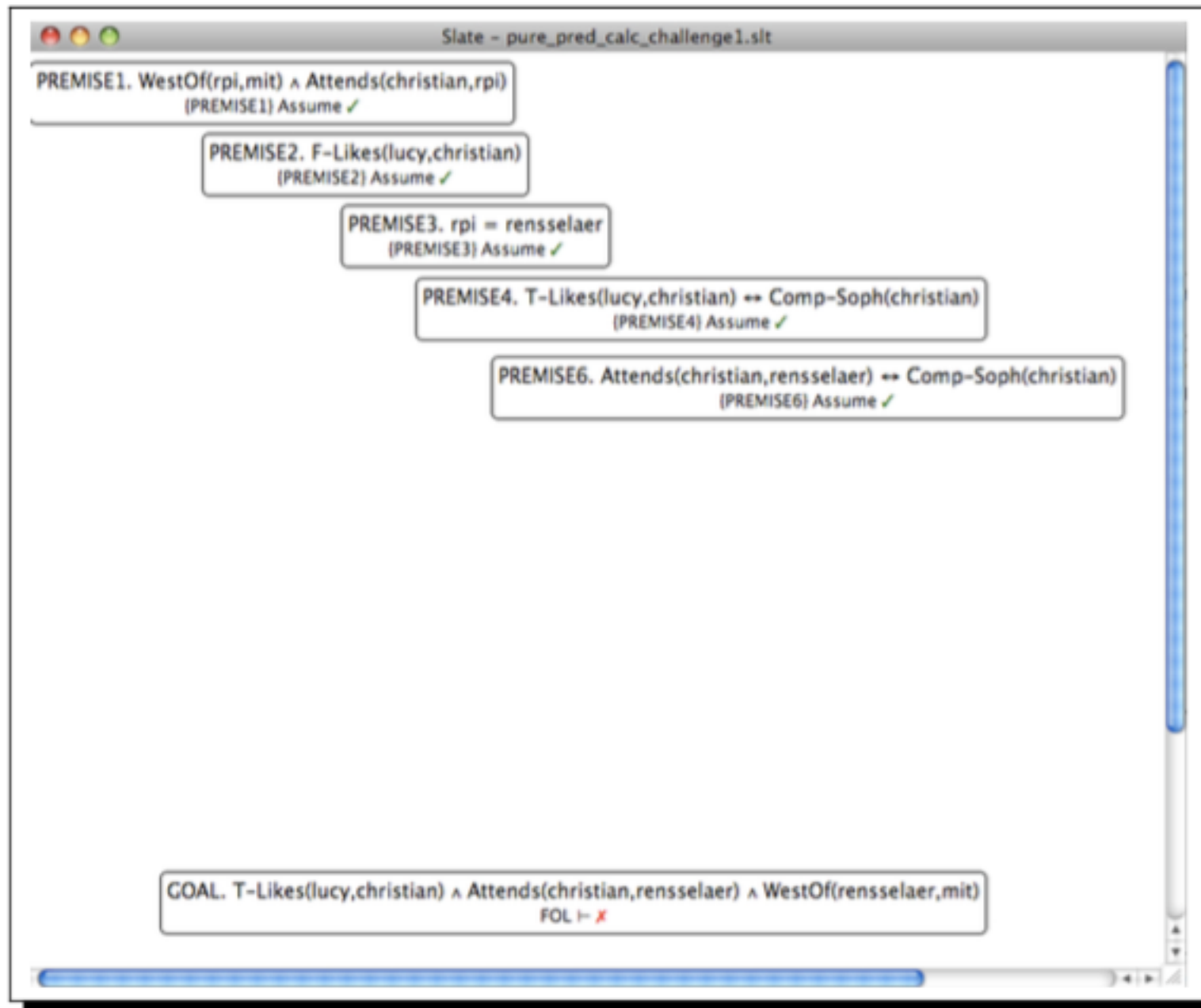
x is a brother of y iff (Brother x y)

x knows Norse mythology iff (K-Norse-Myth x)

x knows who Huginn and Muninn are iff (K-H-M x)

Implement this example from the book!

Figure 3.1: A Proof Challenge in the Pure Predicate Calculus



Implement this example from the book!

Figure 3.1: A Proof Challenge in the Pure Predicate Calculus

