

# Logic Tutorial 1

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# Overview

- ▶ 16:00 How to learn
- ▶ 16:10 Recap
- ▶ 16:20 **Q&A**
- ▶ 16:50 Quiz
- ▶ 17:00 **Q&A**
- ▶ 18:00 Feierabend

## How to learn (0/3)

[msvincognito.github.io/survivingdke](https://msvincognito.github.io/survivingdke)

# Survivingdke

A survival guide to the Department of Knowledge Engineering at Maastricht University

[View on GitHub](#)

[Download .zip](#)

[Download .tar.gz](#)

## How to learn (1/3): Exercise

[msvincognito.nl/wiki](http://msvincognito.nl/wiki)

-  [logic\\_answersexam1-2006.zip](#) (2020/11/14 22:49 900.2 KB)
-  [logic\\_exam2004-answers.zip](#) (2020/11/14 22:49 818.2 KB)
-  [logic\\_exam2005-answers.zip](#) (2020/11/14 22:49 408.4 KB)
-  [logic\\_exam2007-1-answers.zip](#) (2020/11/14 22:49 887.5 KB)
-  [logic\\_exam2007-2-answers.zip](#) (2020/11/14 22:49 908.2 KB)
-  [logic\\_exam2008-1-answers.zip](#) (2020/11/14 22:49 950 KB)
-  [logic\\_exam2008-2-answers.zip](#) (2020/11/14 22:49 890.2 KB)
-  [logic\\_exam\\_2004.pdf](#) (2020/11/14 22:49 104.8 KB)
-  [logic\\_exam\\_2005-06-03.pdf](#) (2020/11/14 22:49 81.4 KB)
-  [logic\\_exam\\_2006-05-31.pdf](#) (2020/11/14 22:49 81.7 KB)
-  [logic\\_exam\\_2007-05-30.pdf](#) (2020/11/14 22:49 102.6 KB)
-  [logic\\_exam\\_2007-06-29.pdf](#) (2020/11/14 22:49 105.2 KB)
-  [logic\\_exam\\_2008-06-04.pdf](#) (2020/11/14 22:49 36.3 KB)
-  [logic\\_exam\\_2008-07-02.pdf](#) (2020/11/14 22:49 35.5 KB)
-  [logic\\_mockexam\\_2016.pdf](#) (2020/11/14 22:49 209.7 KB)

## How to learn (2/3): Self-study

### Z-Library, Library Genesis

Part of Z-Library project. The world's largest ebook library

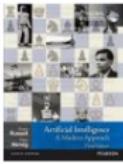
Are you familiar with a high-risk merchant or do you process payments? [Yes, I am.](#) X

[General Search](#) [Fulltext Search](#)

[Search](#)

[Search options](#)

[Books \(500+\)](#) [Articles](#) [Most Popular](#) [List](#)

 [Artificial Intelligence: A Modern Approach, 3rd Edition](#)  
Pearson Education  
*Stuart J. Russell, Peter Norvig*

Year: 2016 Language: english File: PDF, 17.25 MB

# How to learn (2/3): Self-study

Week 1 24 APRIL - 30 APRIL

finish Biology notes

chemistry notes  
finished chapter 14 biology  
finished chapter 15 biology  
finished chapter 16 biology  
finished chapter 17 biology  
finished chapter 18 biology  
finished chapter 19 biology  
PSC PTE 2.5%  
PSC PTE 2.5%

Week 2 1 MAY - 7 MAY

finish chemistry notes  
finish Biology Mockbooks  
finish Geography Mockbooks  
memorize 1st 500 vocab  
memorize 500 1st 1000  
memorize 1000 2nd 1000  
memorize 1500 3rd 1000  
memorize 2000 4th 1000

Week 3 8 MAY - 14 MAY

finished biology notes  
highlighter biology notes  
highlighter geography notes  
highlighter chemistry notes  
highlighter physics notes  
PSC q/s blocker  
1000 1st 500 2nd 250, 2000 1st 750, 2000 1st 250, 2000 1st 250

Week 4 15 MAY - 21 MAY

finished blocker  
PSC q/s blocker  
2000 1st 500, 2000 2nd 500,  
2000 1st 500, 2000 2nd 500  
2000 1st 500, 2000 2nd 500  
2000 1st 500, 2000 2nd 500  
2000 1st 500, 2000 2nd 500

Week 5 22 MAY - 28 MAY

finished blocker  
PSC q/s blocker  
2000 1st 500, 2000 2nd 500  
2000 1st 500, 2000 2nd 500

Week 6 29 MAY - 4 JUNE

finished blocker  
PSC q/s blocker  
2000 1st 500, 2000 2nd 500, 2000 1st 500, 2000 1st 500  
2000 1st 500, 2000 2nd 500, 2000 1st 500  
2000 1st 500, 2000 2nd 500, 2000 1st 500  
2000 1st 500, 2000 2nd 500, 2000 1st 500

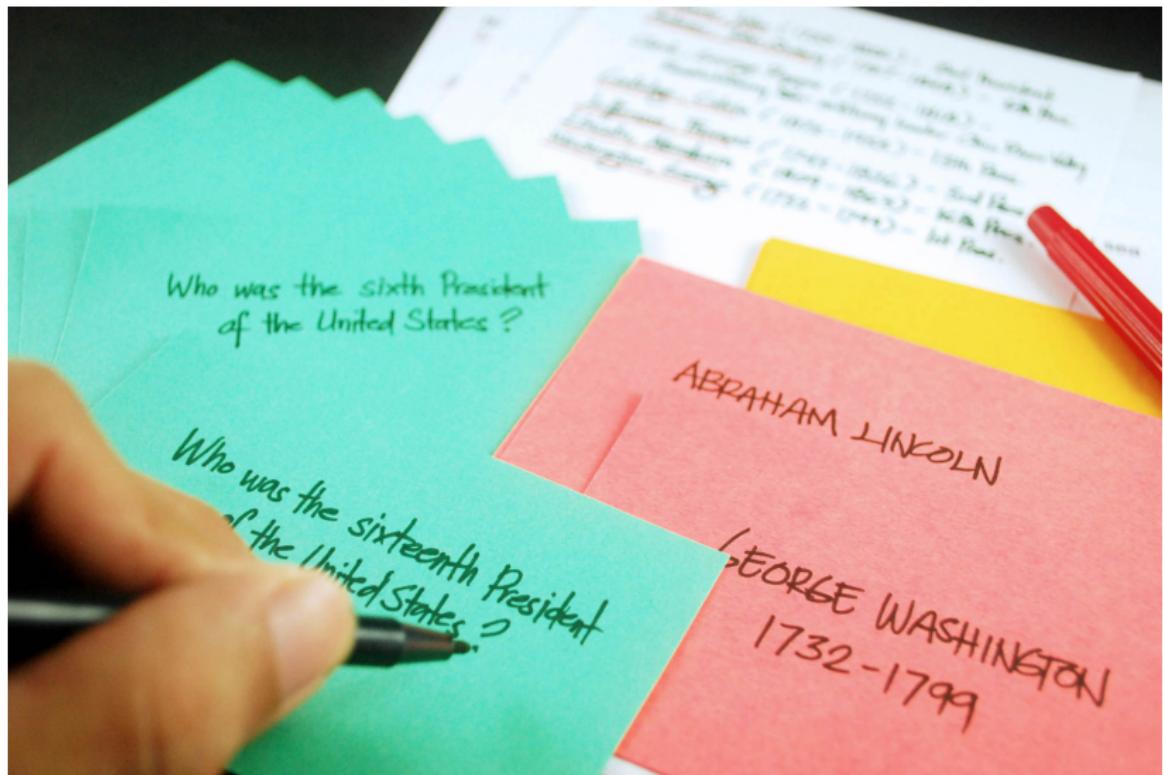
Week 7 5 JUNE - 11 JUNE

finished blocker  
PSC q/s blocker  
2000 1st 500, 2000 2nd 500  
2000 1st 500, 2000 2nd 500  
2000 1st 500, 2000 2nd 500

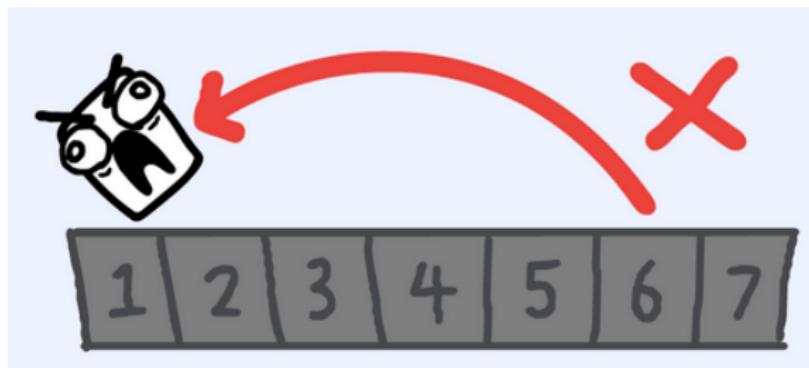
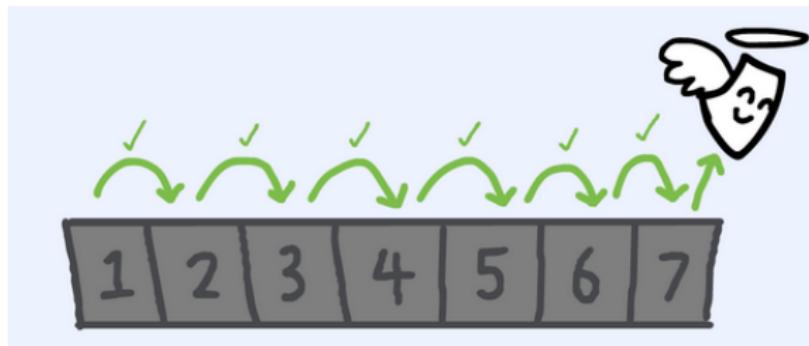
Week 8 12 JUNE - 18 JUNE

finished blocker  
PSC q/s blocker

## How to learn (3/3): Spaced repetition

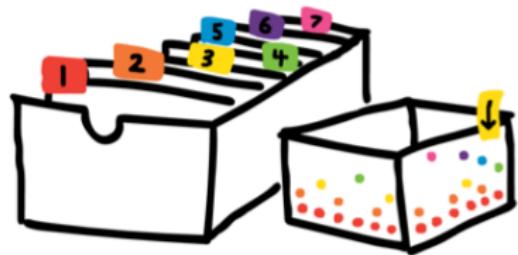


## How to learn (3/3): Spaced repetition



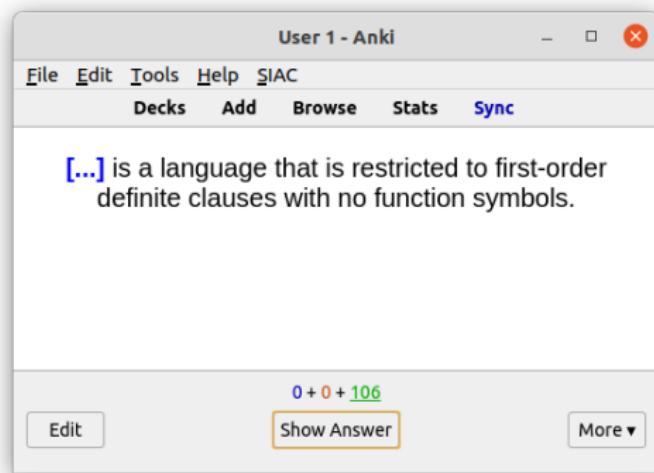
How to learn (3/3): Spaced repetition

# LEITNER BÖX



## How to learn (3/3): Spaced repetition

Anki



# How to learn (3/3): Spaced repetition

## RemNote

Russell & Norvig exp

• (ch. 19) knowledge in learning

- a logical formulation of learning
  - Least-commitment search
    - Candidate elimination
  - algorithm

• (ch. 19) knowledge in learning

- a logical formulation of learning
  - can take advantage of prior knowledge about the world
  - **dataset** → conjunction of all the (example descriptions and goal literals)
  - **Extension of a goal predicate** → the set of examples with which it is identical
  - a consistent hypothesis should be consistent with every example
- **Current-best-hypothesis search**
  - rather dull
  - (*perhaps first*) described by → John Stuart Mill (1843)
  - *idea* → |

RemNote | Queue

Russell & Norvig exp 47

Learning Arguments > Literature > Relational learning

Russell & Norvig exp

• (ch. 19) knowledge in learning

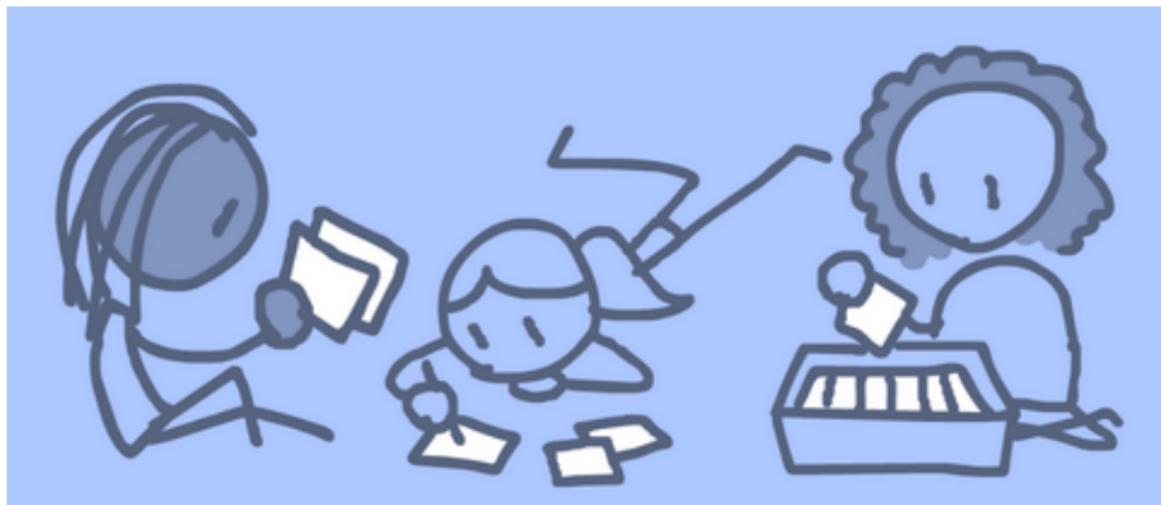
- a logical formulation of learning
  - Least-commitment search
    - Version space: set of hypotheses that are not removed due to inconsistency with the data

1 hour immediate 24 hours

24 hours

## How to learn (3/3): Spaced repetition

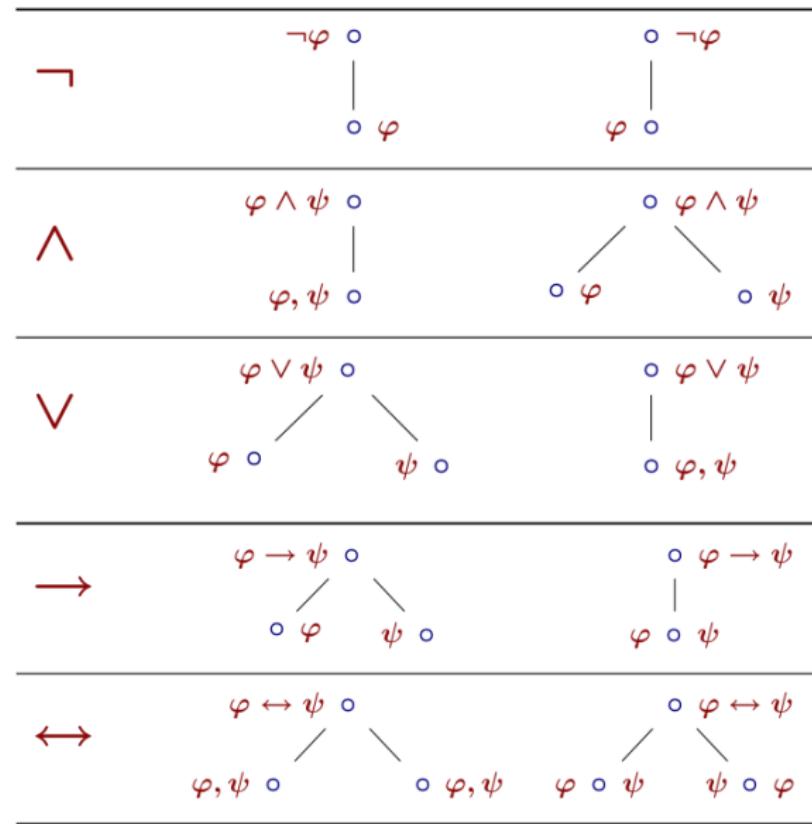
[ncase.me/remember](http://ncase.me/remember)



# How to learn

1. Exercise
2. Self-study
3. Spaced repetition

# Semantic Tableau



# Natural deduction

$\frac{\varphi, \varphi \rightarrow \psi}{\psi} \quad \text{modus ponens}$	$\frac{\begin{array}{c} \varphi \\ \vdots \\ \psi \end{array}}{\varphi \rightarrow \psi} \quad \text{deduction}$	$\frac{\varphi \wedge \psi}{\varphi} \quad \text{E}_\wedge$
$\frac{}{\neg\varphi, \varphi} \perp \quad \text{E}_\neg$	$\frac{\begin{array}{c} \neg\varphi \\ \vdots \\ \perp \end{array}}{\varphi} \quad \text{refutation} \quad \text{I}_\neg$	$\frac{\varphi, \psi}{\varphi \wedge \psi} \quad \text{I}_\wedge$
$\frac{\varphi \vee \psi, \quad \begin{array}{c} \varphi \\ \vdots \\ x \end{array}, \quad \begin{array}{c} \psi \\ \vdots \\ x \end{array}}{x} \quad \text{E}_\vee$	$\frac{\begin{array}{c} \varphi \\ \psi \end{array}}{\varphi \vee \psi} \quad \text{I}_\vee$	

# Q & A

excalidraw

# Quiz

- ▶ Kahoot
- ▶ Tahook

# Feedback

Anonymous feedback form:

- ▶ [linktr.ee/davidpomerenke](https://linktr.ee/davidpomerenke)