For us in here...

We start (almost) from the beginning

- Year 1956, Dartmouth College
  - No PCs! ... IBM PC (1981)
  - John McCarthy, Marvin Minsky, Allen Newell
- Show possibilities
Env. Classification

Properties

- Fully vs. Partially observable
- Episodic vs. Sequential
- Static vs. Dynamic
- Single vs. Multi agent
- Deterministic vs. Stochastic
- Discrete vs. Continuous
- Known vs. Unknown
- Turn-based vs. Real-time
- Noiseless vs. Noisy
TicTacToe
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What does it mean?

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„Reasoning as search“

Searching through game-space
„Reasoning as search“
Searching through game-space
„Reasoning as search“
What if there is too many steps?
„Reasoning as search“
Assigning scores

```
10  30  100  50  75  -5  40
40  30  -10  20  45
...
```
"Reasoning as search"
Propagating backward

10  30
100  50  75  -5  40
40  30  -10  20  45
"Reasoning as search"
Propagating backward
"Reasoning as search"
Propagating backward
"Reasoning as search"
Propagating backward
„Reasoning as search“
Propagating backward
„Reasoning as search“
And choose the best option!
"Reasoning as search"

=> MIN-MAX algorithm