Introduction to Artificial Intelligence

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Quote of the day

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec lacinia pulvinar augue, sit amet tincidunt nisi auctor sed. Nunc vehicula nisi et nibh pellentesque finibus.

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Hello!
I am Agil Haykal

I am a Data expert with extensive experience in multiple industries such as marketplace, insurance, banking, general taxation, consulting, and training.

In total, I trained more than 300 data scientists, engineers, and analysts.

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Table of Content

What will We Learn Today?

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What is Artificial Intelligence?

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Usually people thinks that AI is...

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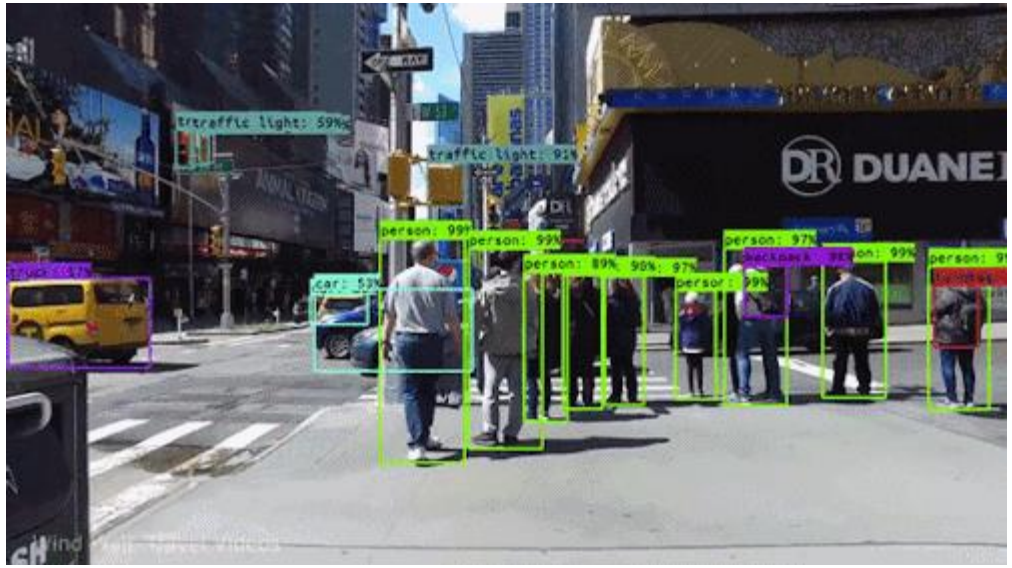
Or this...



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But actually also this...

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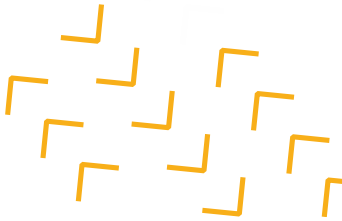
Artificial intelligence leverages computers and machines to mimic the problem-solving and decision-making capabilities of the human mind.

- IBM



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History of Artificial Intelligence

AI Started here...

Historians usually trace the idea of automata or “a machine that thinks” to the Middle Ages, when humans first invented self-moving devices, but the concept of artificial, lifelike creatures dates to the myths and legends from at least about 2,700 years ago.

Talos “the first AI”

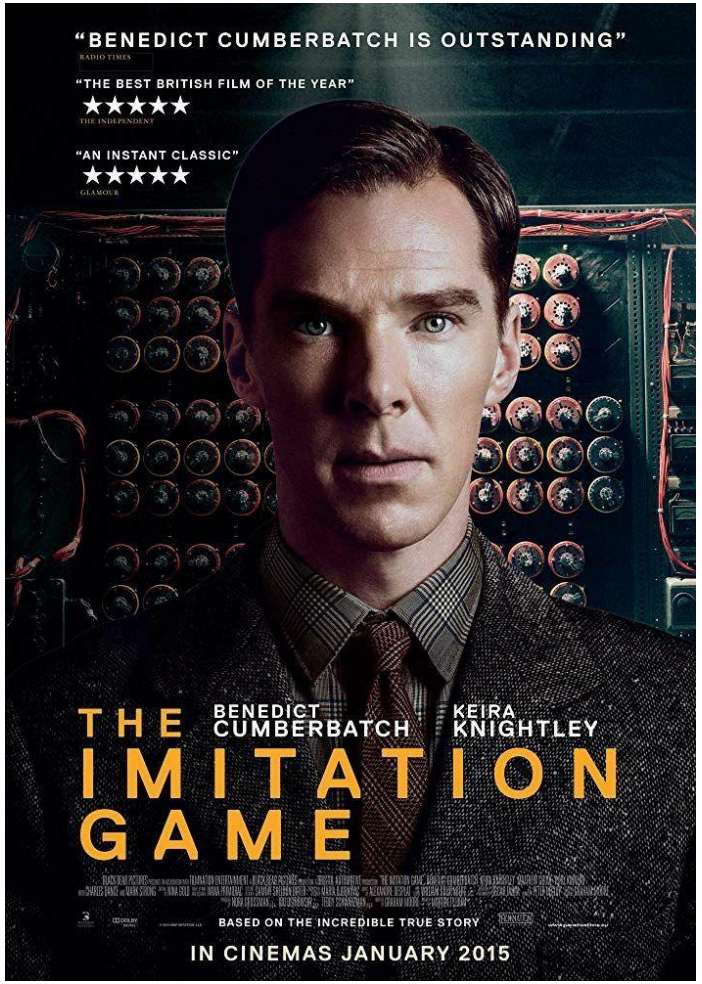
The story of Talos, which Hesiod first mentioned around 700 BCE, offers one of the earliest conceptions of a robot.

The myth describes Talos as a giant bronze man that Hephaestus, the Greek god of invention and blacksmithing, built.

Zeus, the king of Greek gods, commissioned Talos to protect the island of Crete from invaders. He marched around the island three times every day and hurled boulders at approaching enemy ships.

The Enigma solver (1950)

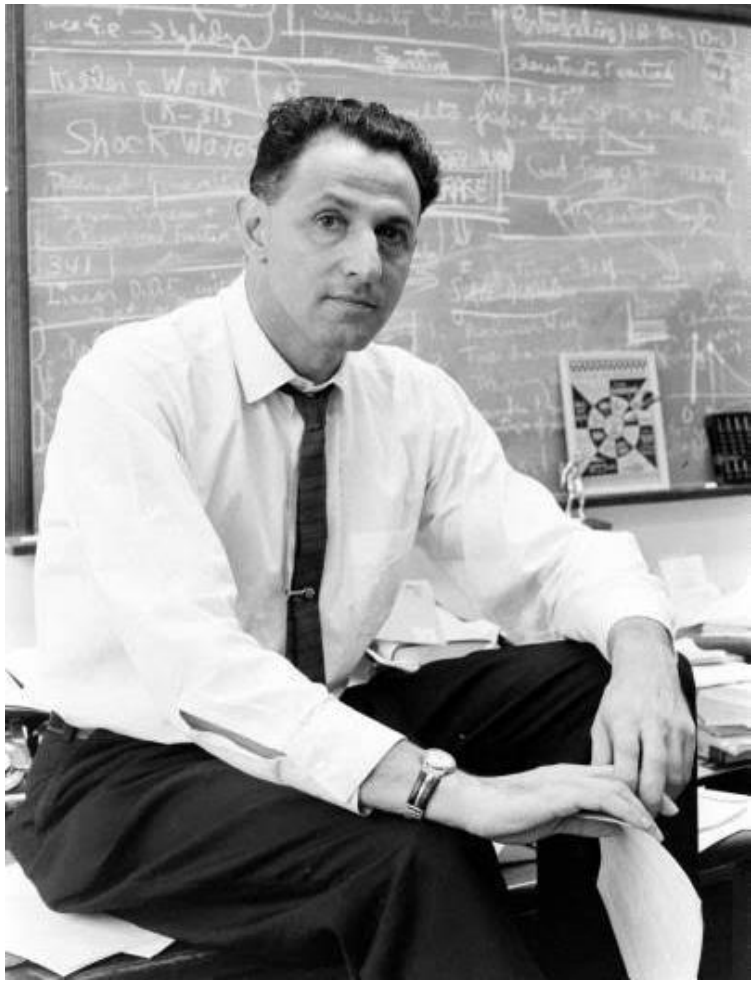
Alan Turing publishes Computing Machinery and Intelligence. In the paper, Turing—famous for breaking the Nazi's ENIGMA code during WWII—proposes to answer the question 'can machines think?' and introduces the Turing Test to determine if a computer can demonstrate the same intelligence (or the results of the same intelligence) as a human. The value of the Turing test has been debated ever since.



The First Learning AI (1954)

Bellman's first publication on dynamic programming appeared in 1952 and his first book on the topic An introduction to the theory of dynamic programming was published by the RAND Corporation in 1953.

He created a Bellman’s Equation which is the foundation of Reinforcement Learning.



Godfather of Deep Learning

Geoffrey Hinton is an Psychologist and Computer Scientist who makes the perceptron concept and neural network into reality. He is the teacher of distinctive Computer Scientist like Yann LeCun (inventor of CNN) and other great inventor.

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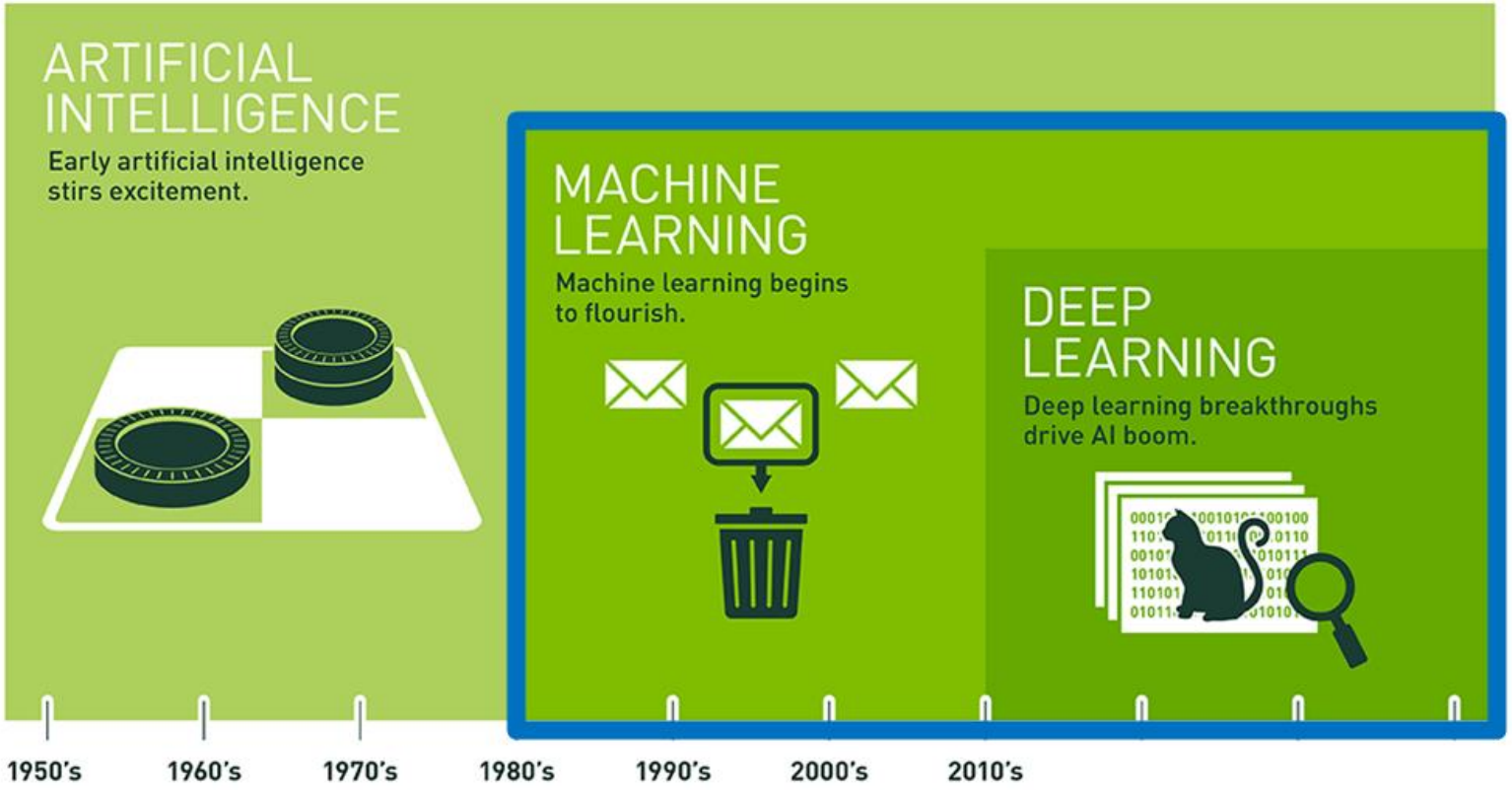
Progress of AI Technology



Since an early flush of optimism in the 1950s, smaller subsets of artificial intelligence – first machine learning, then deep learning, a subset of machine learning – have created ever larger disruptions.

Mostly taught and highlighted

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How AI “thinks”

Preprogrammed or
Knowledge Base

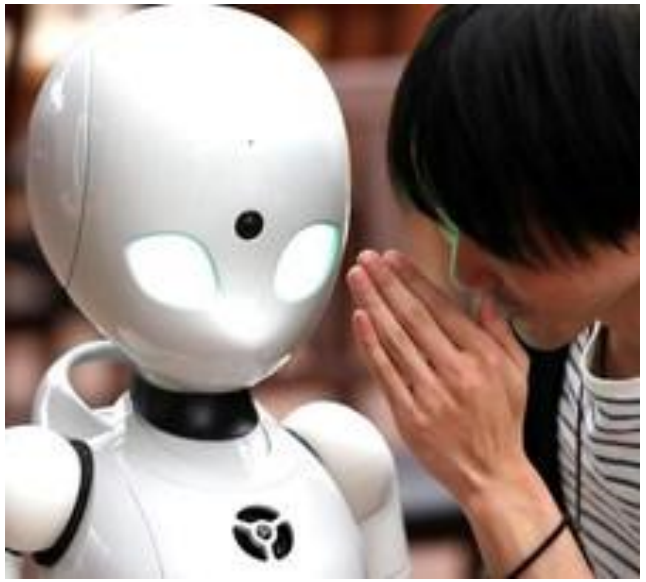
Learning

Intelligent Agent

An Intelligent agent could be anything that makes decisions, as a person, firm, machine, or software.

It carries out an action with the best outcome after considering past and current percepts (agent's perceptual inputs at a given instance).

An AI system is composed of an agent and its environment. The agents act in their environment. The environment may contain other agents.

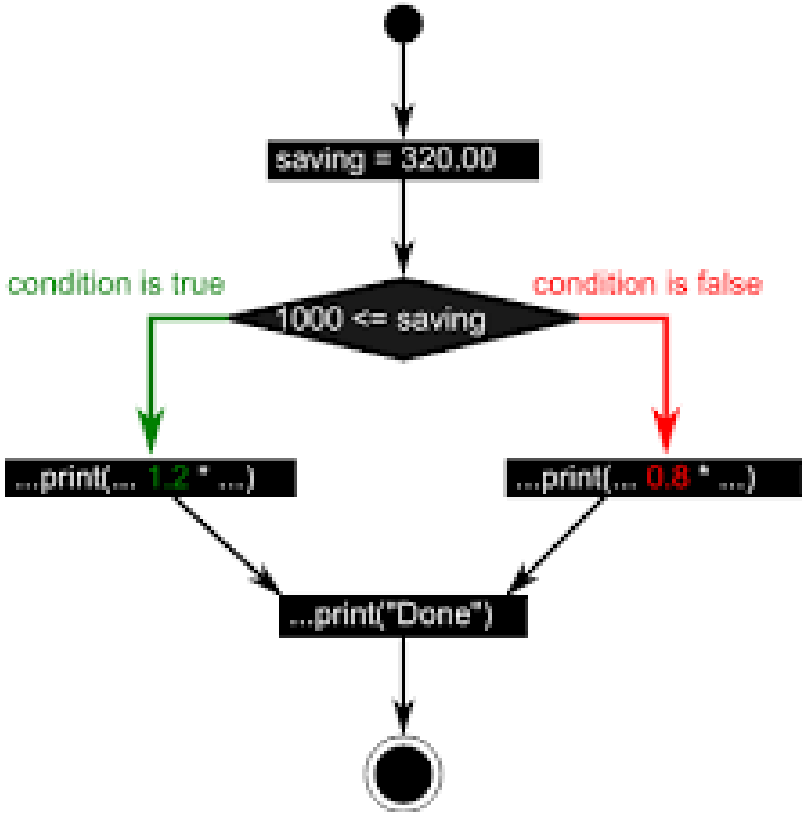


Knowledge Based

A knowledge-based system (KBS) is a form of artificial intelligence (AI) that aims to capture the knowledge of human experts to support decision-making.

Examples of knowledge-based systems include expert systems, which are so called because of their reliance on human expertise.

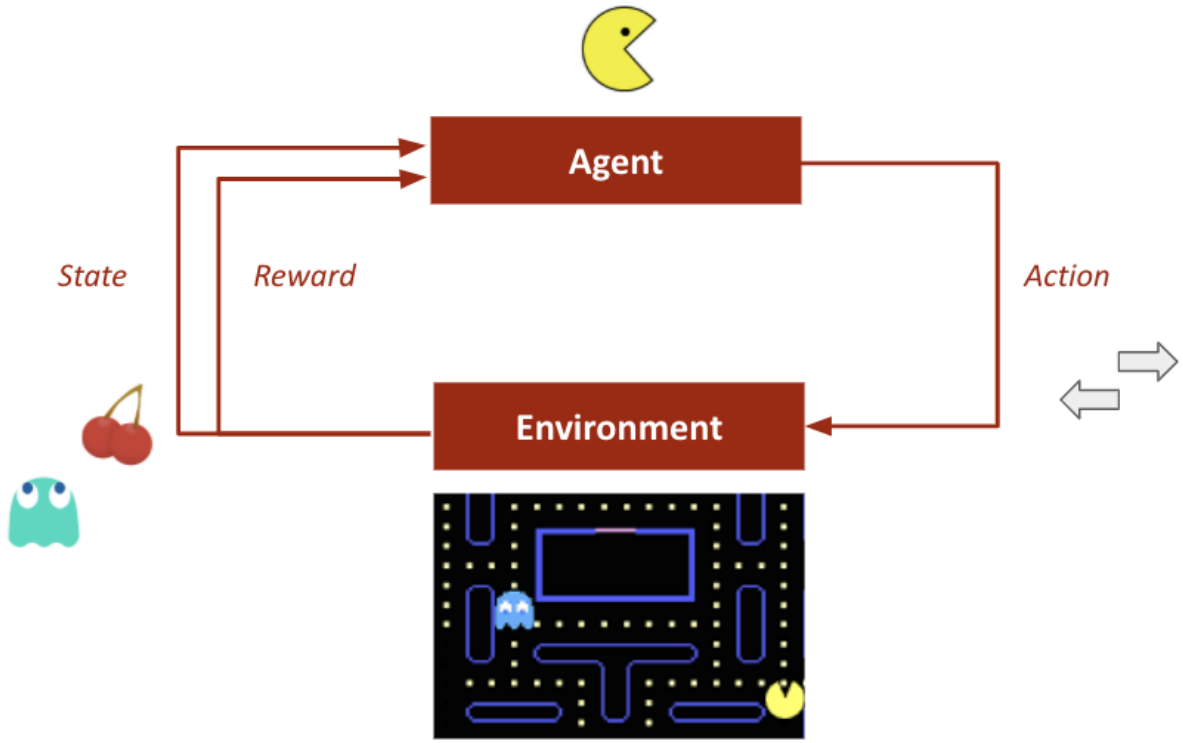
In short, developer create IF-ELSE System



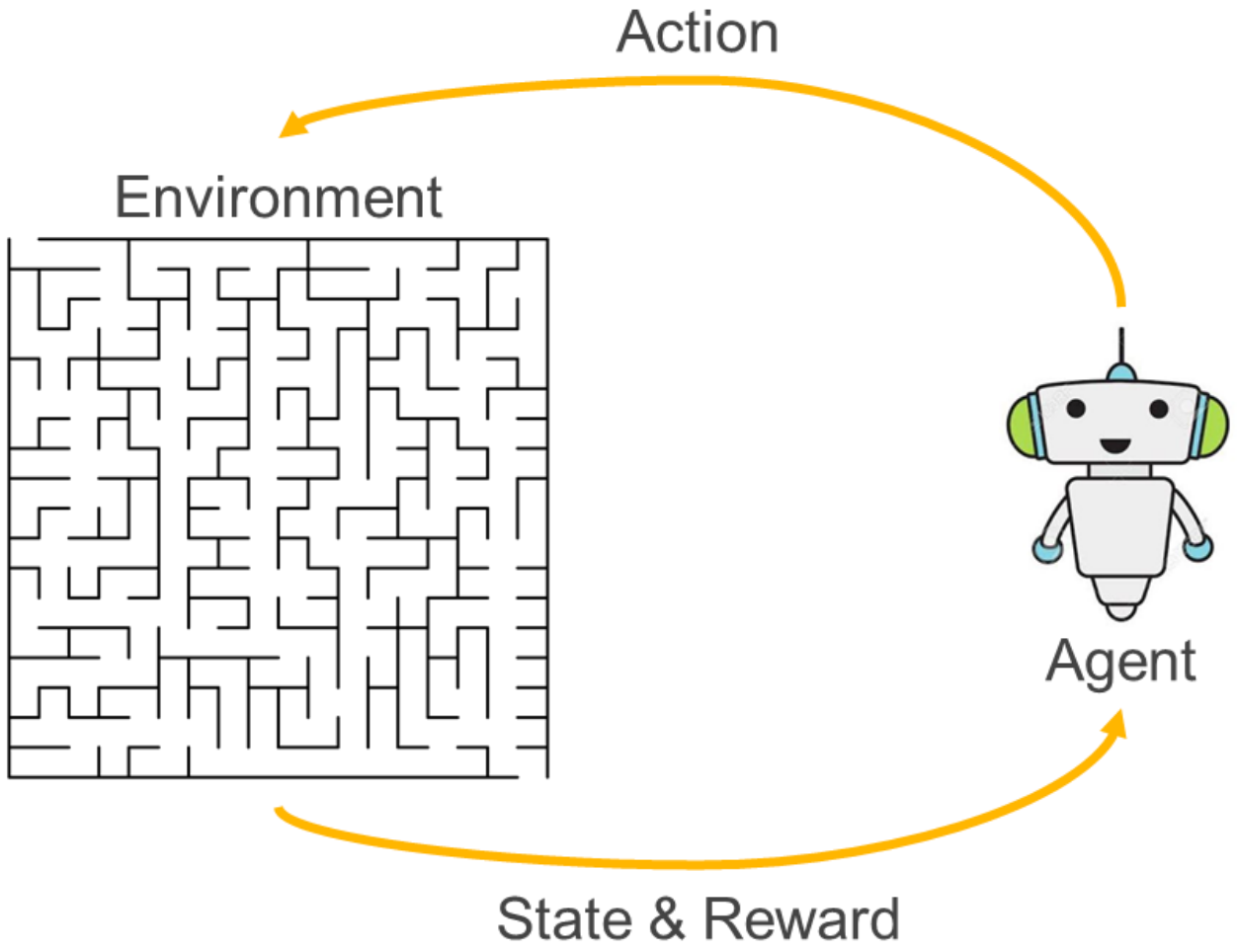
Reinforcement Learning

Reinforcement is the process of encouraging or establishing a belief or pattern of behavior.

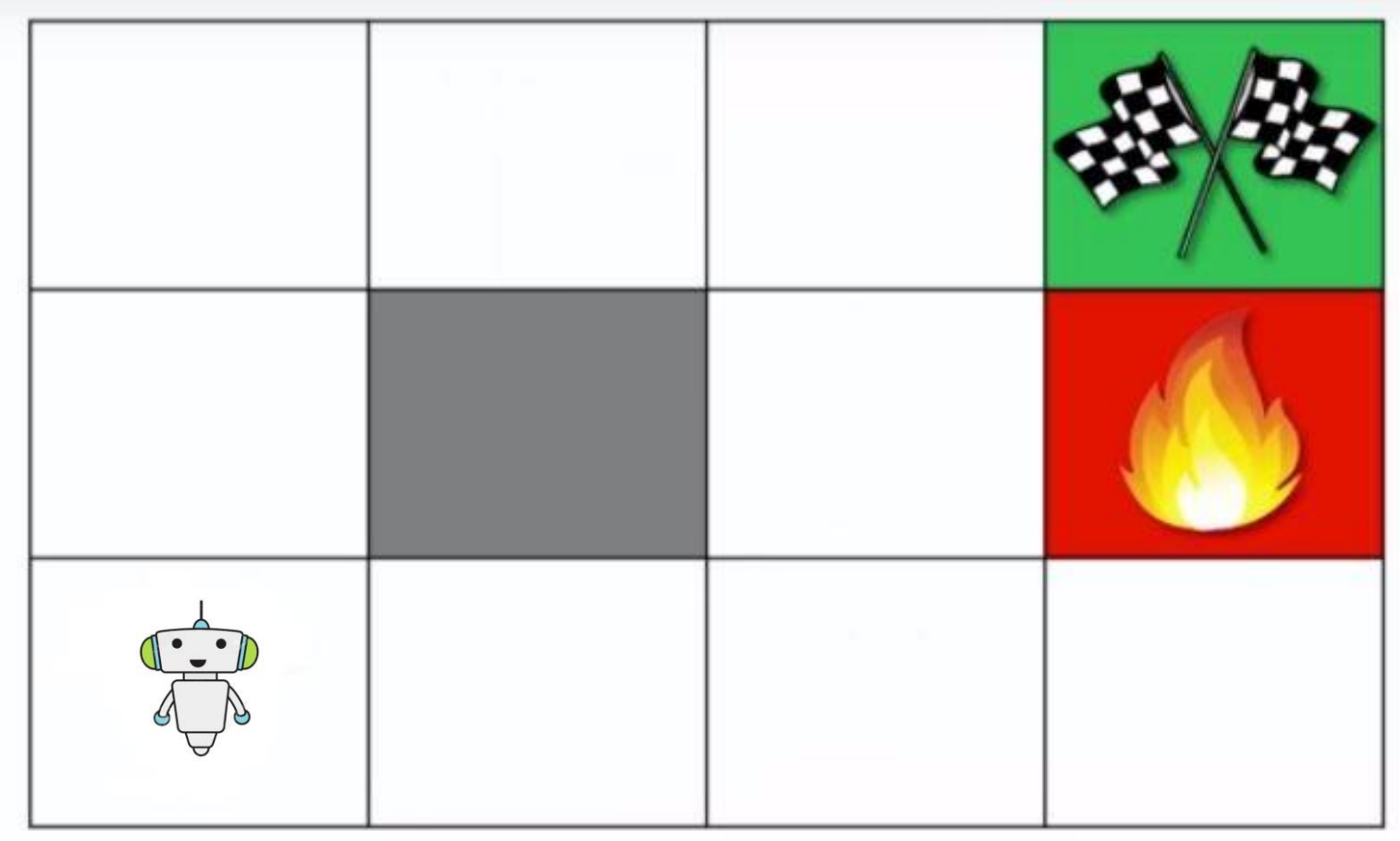
Your AI is just like a kid, they are highly motivated by Reward and Punishment.



RL Concept



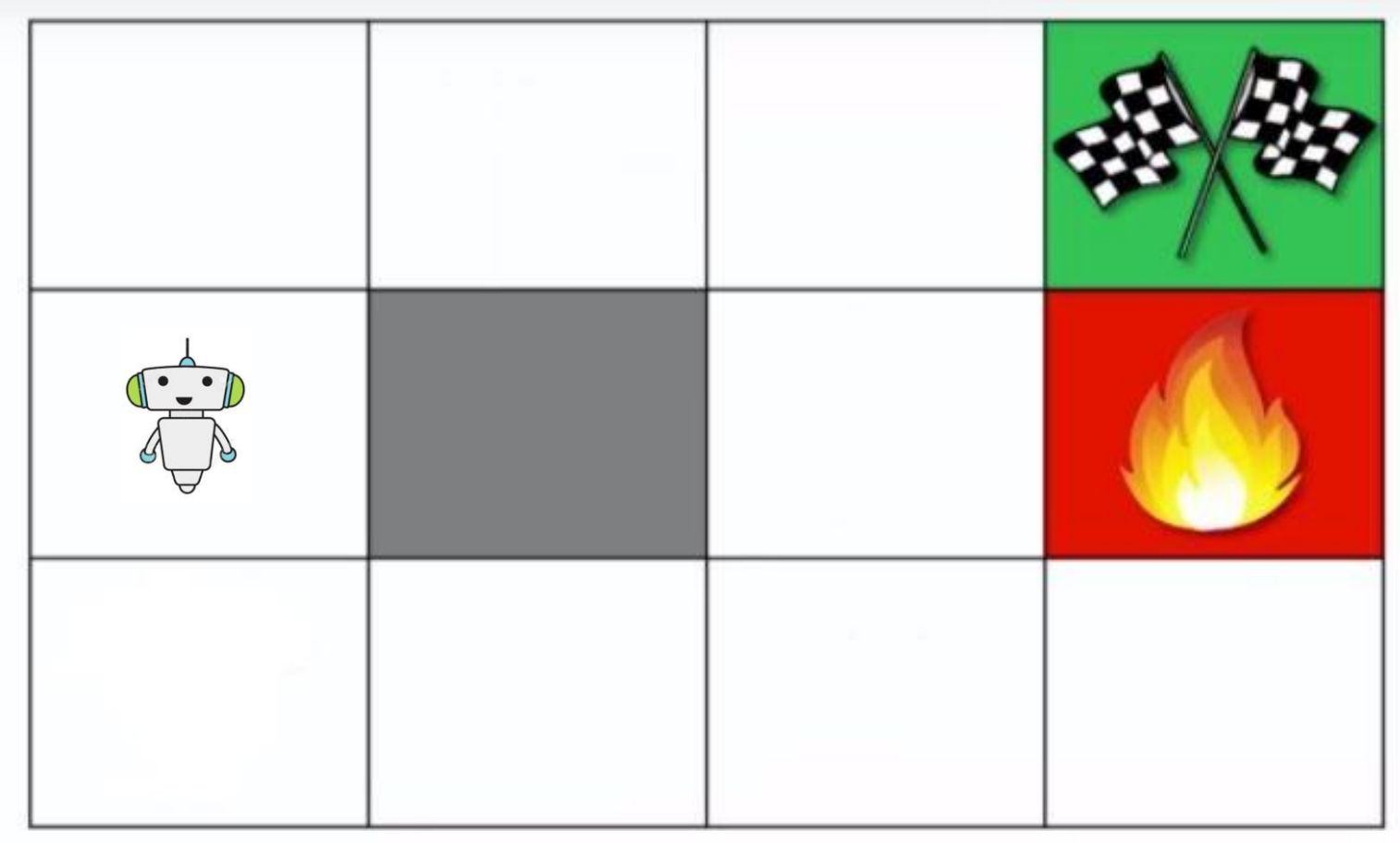
How RL works



R= +1

R= -1

How RL works



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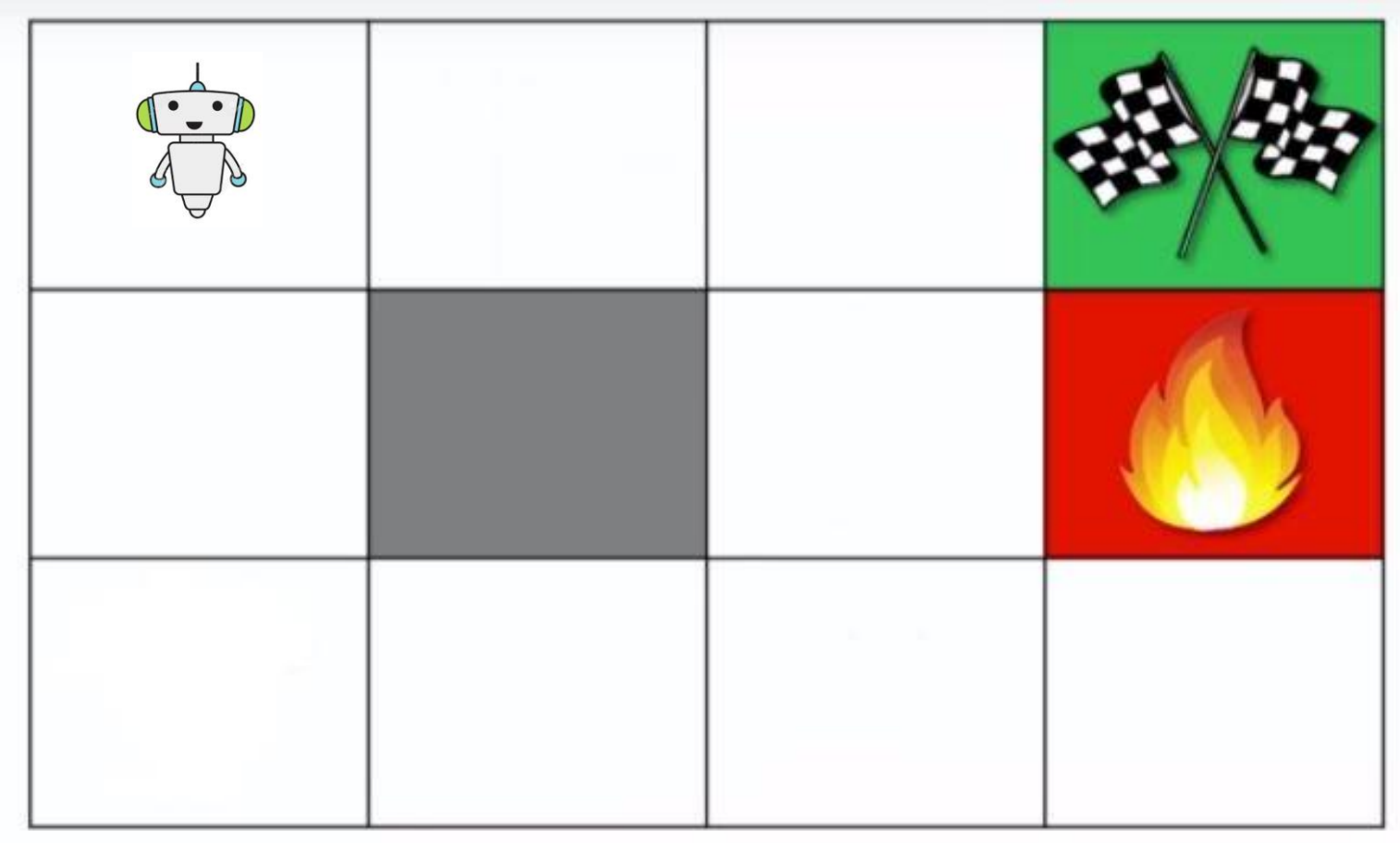

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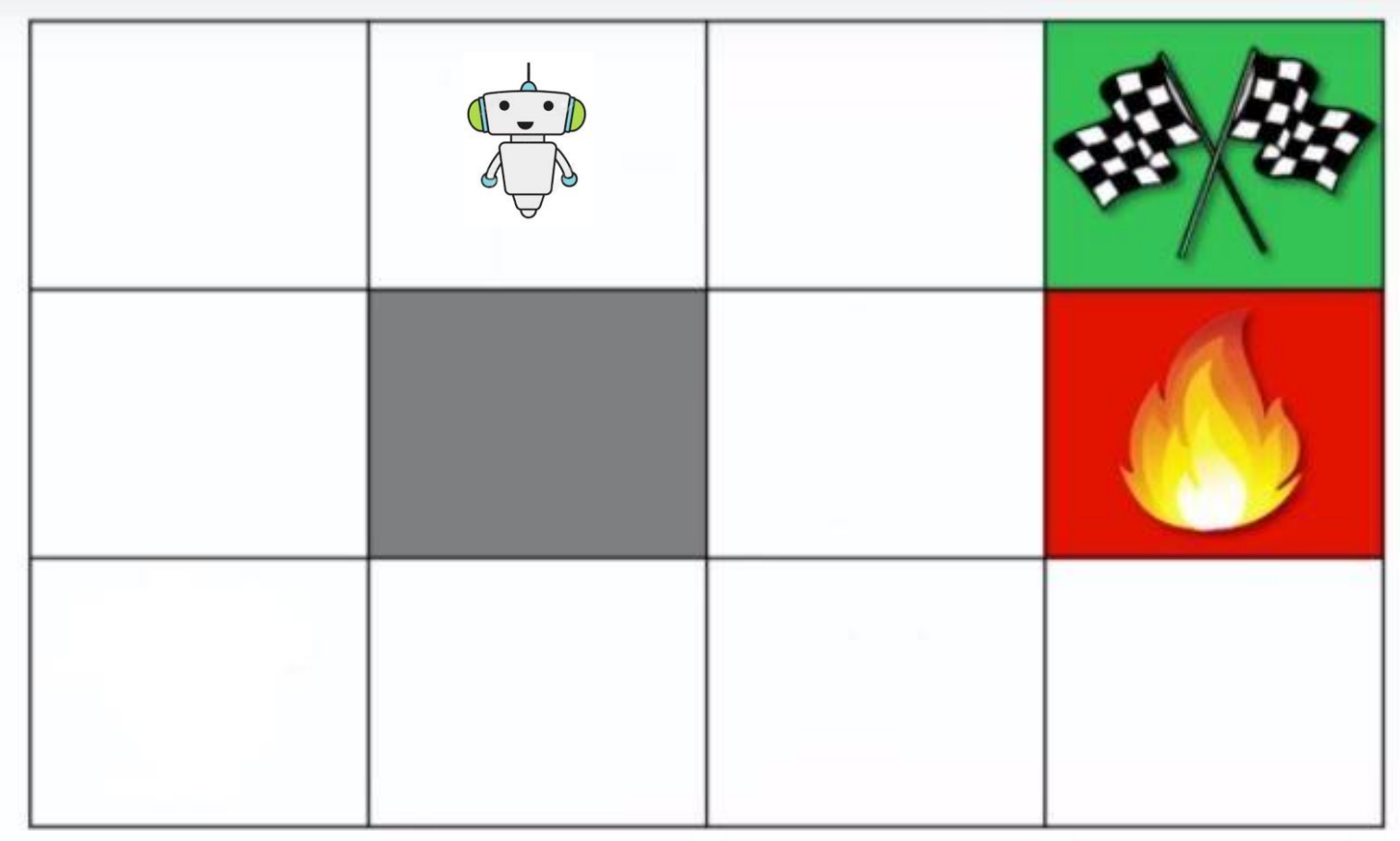

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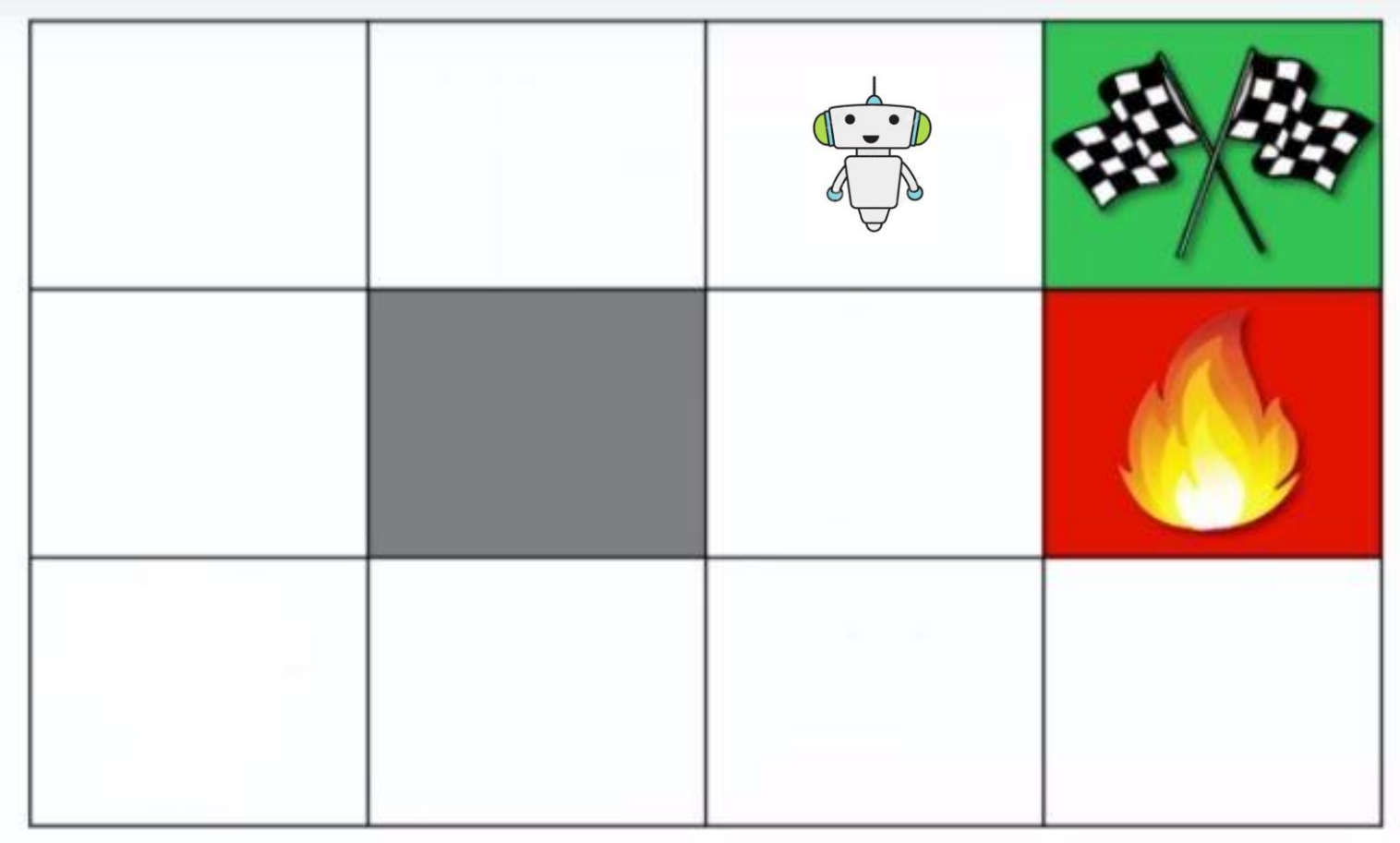
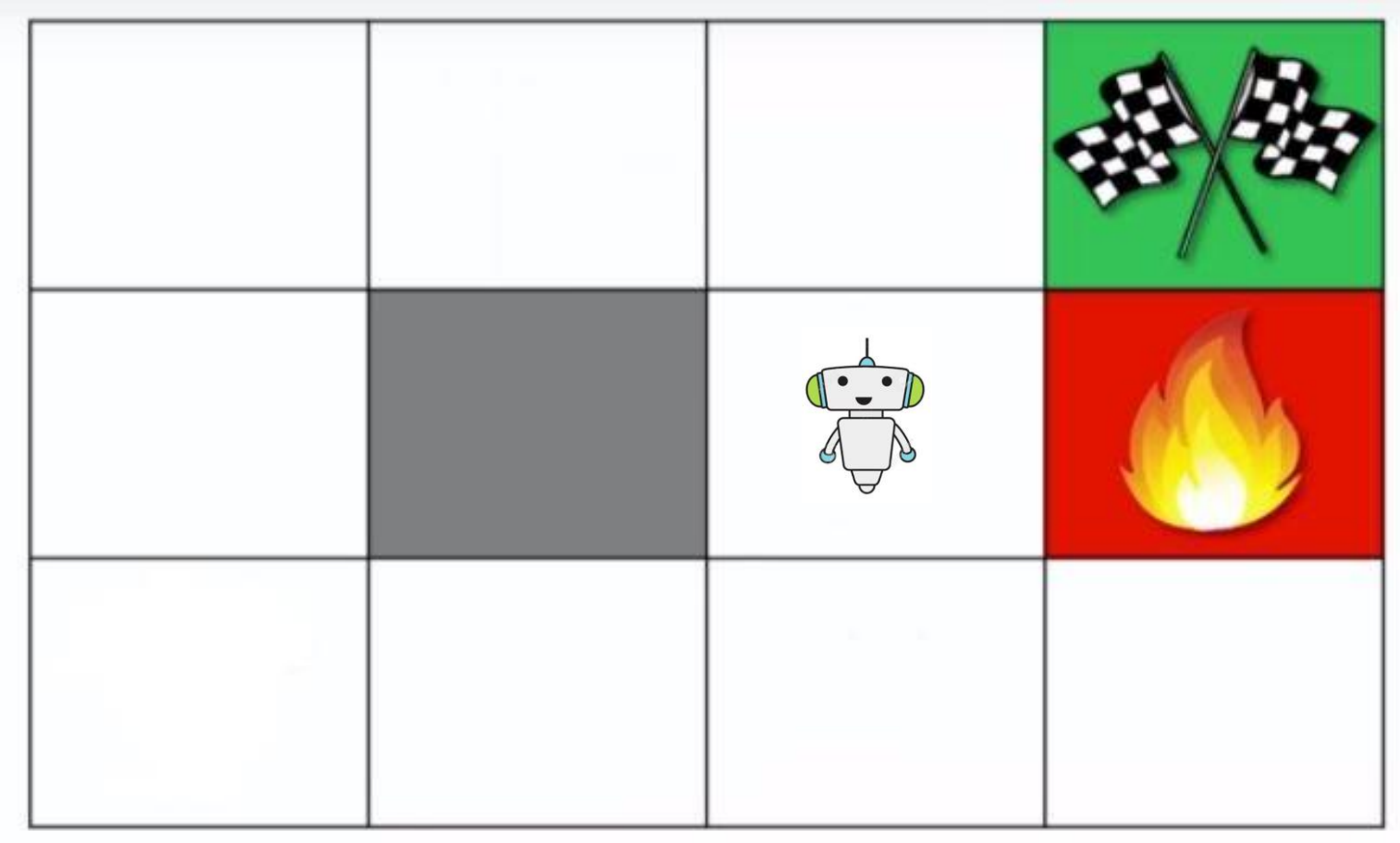


How RL works



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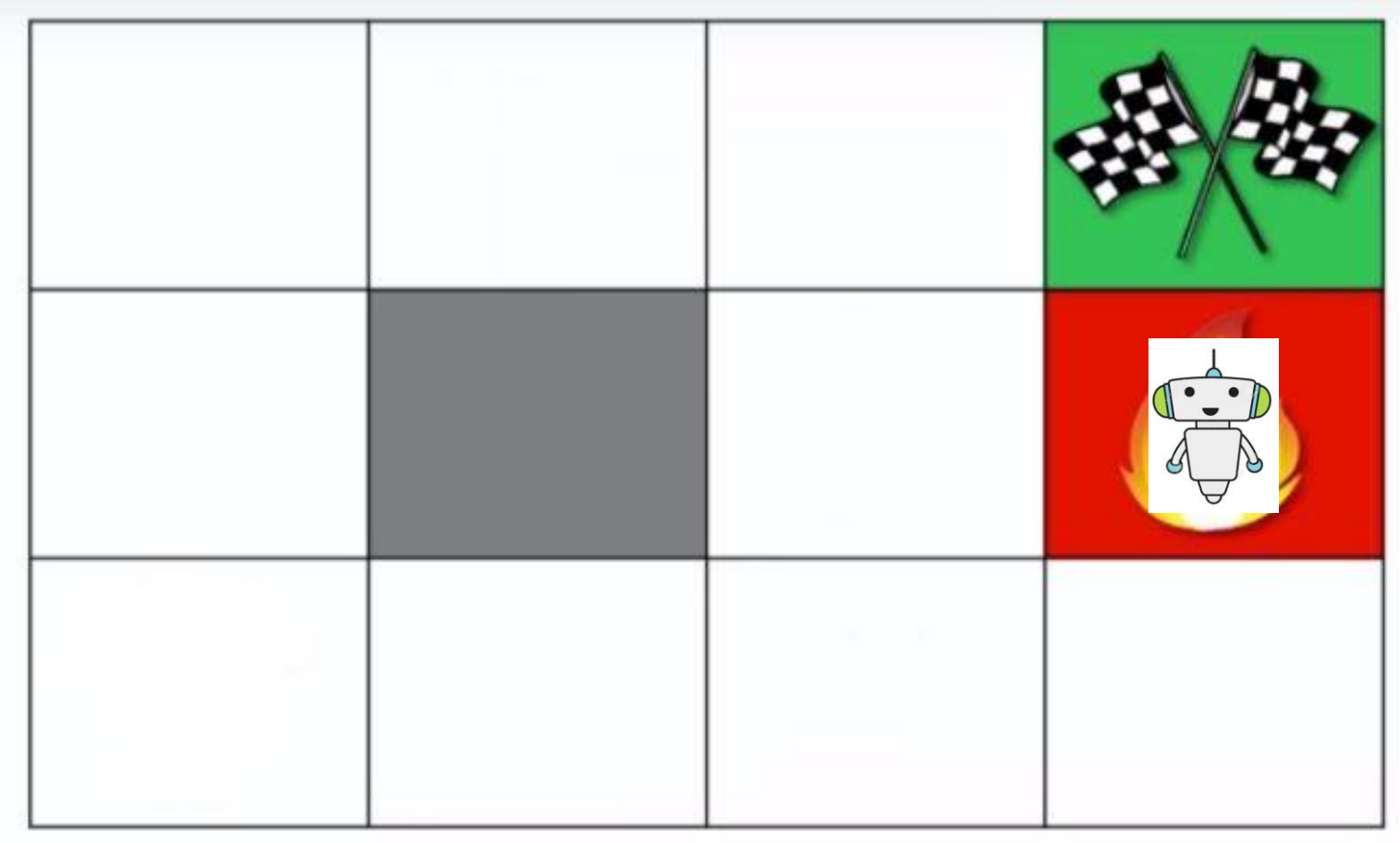
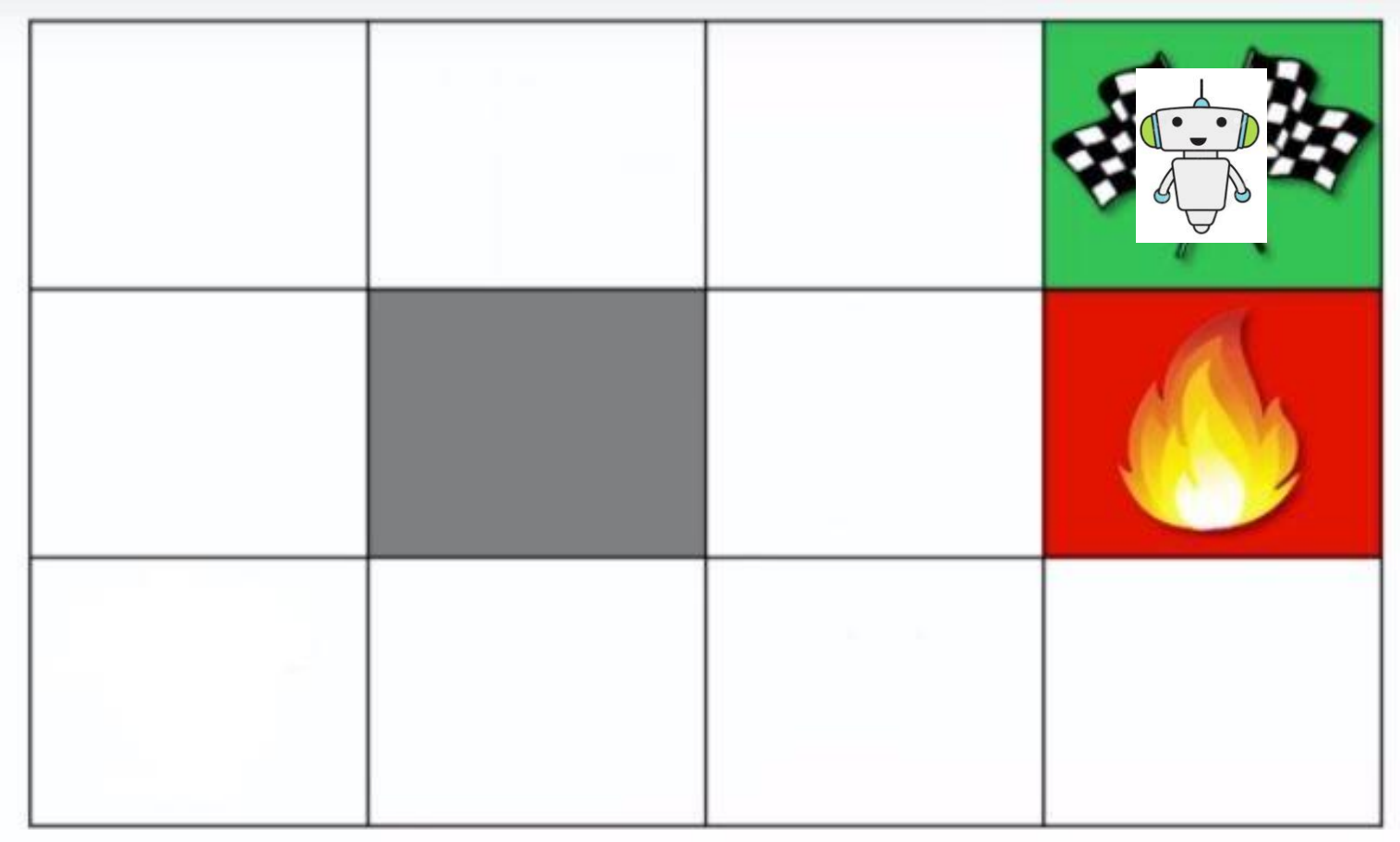
How RL works



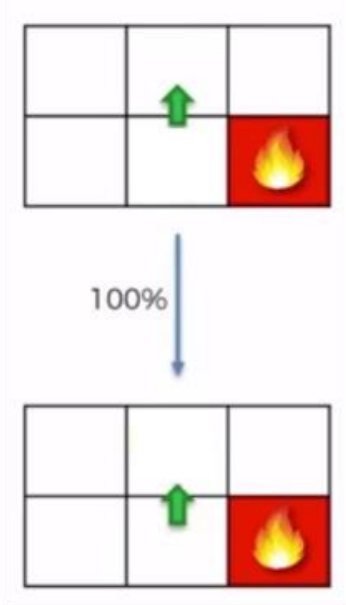
How RL works



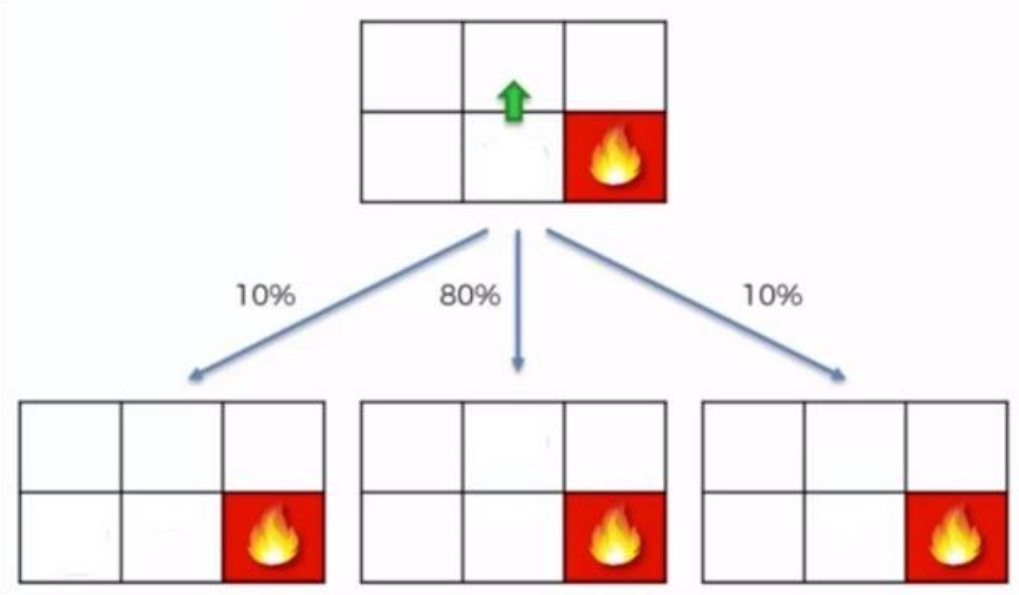
R= +1

R= -1

Searching Process

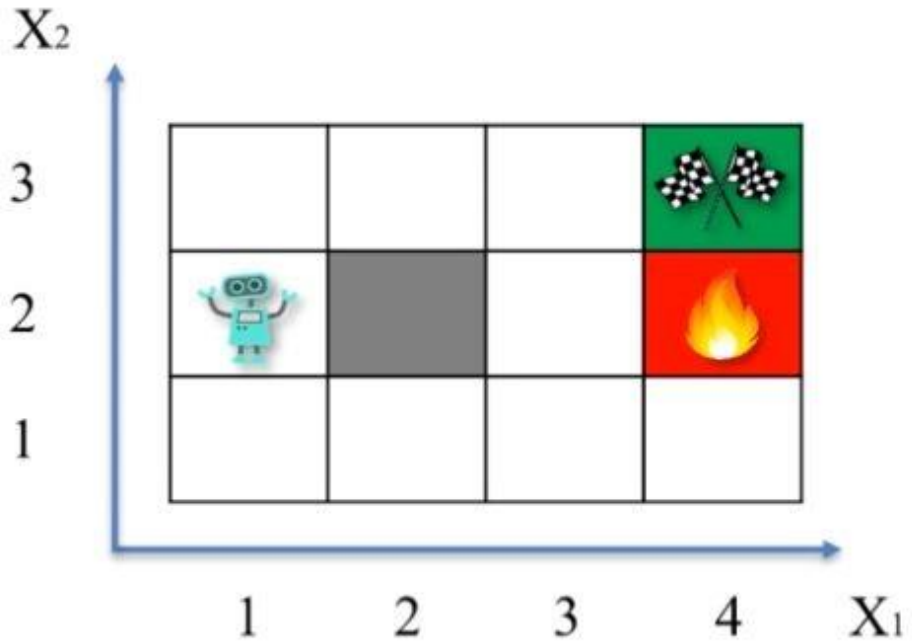


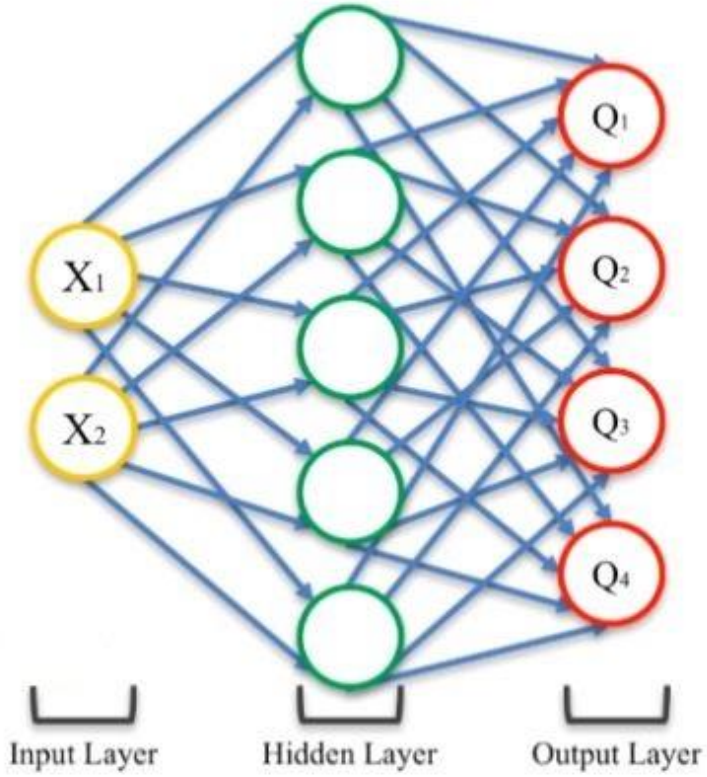
Deterministic Process



Non-Deterministic Process

RL x DL





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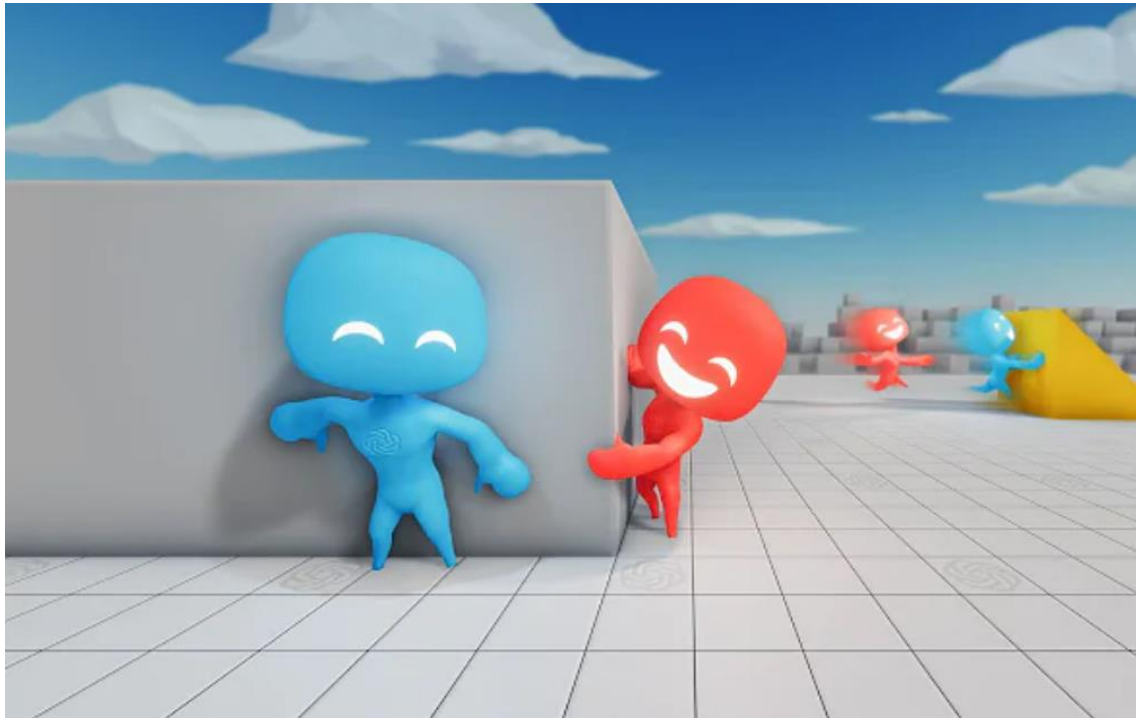
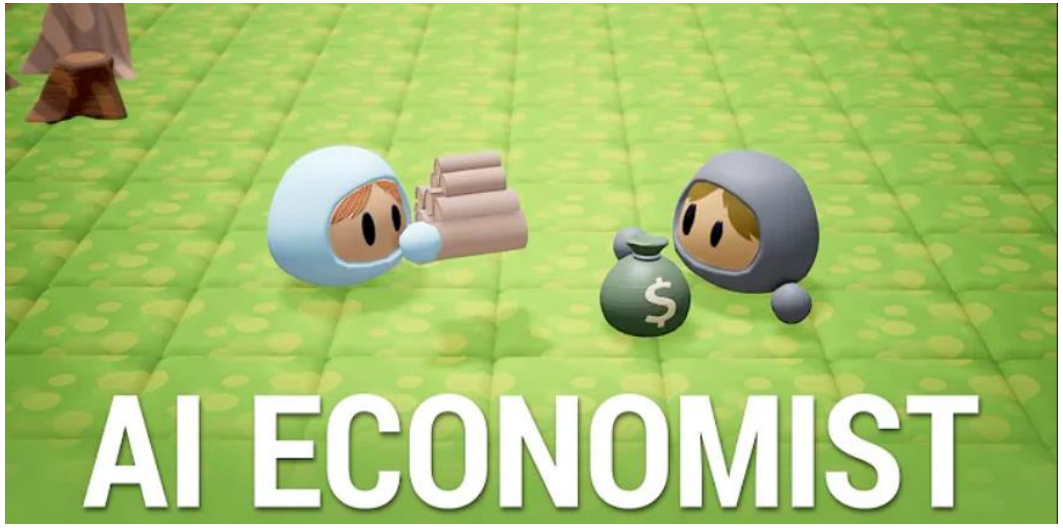
AI Progress Today



Hide and Seek



AI that can set economy

And many more...

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Thank YOU