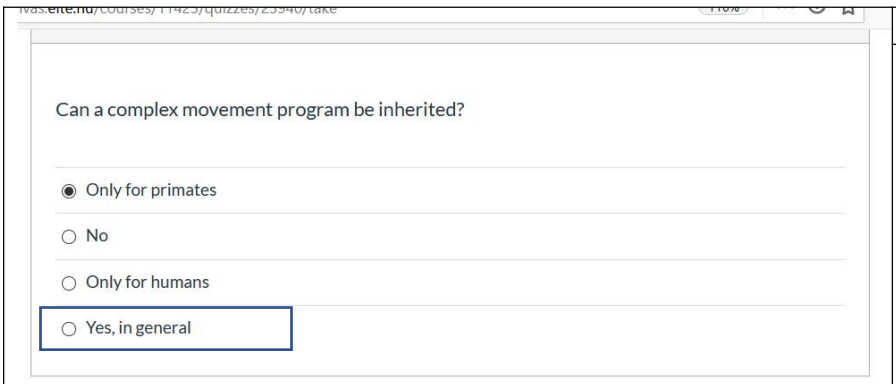
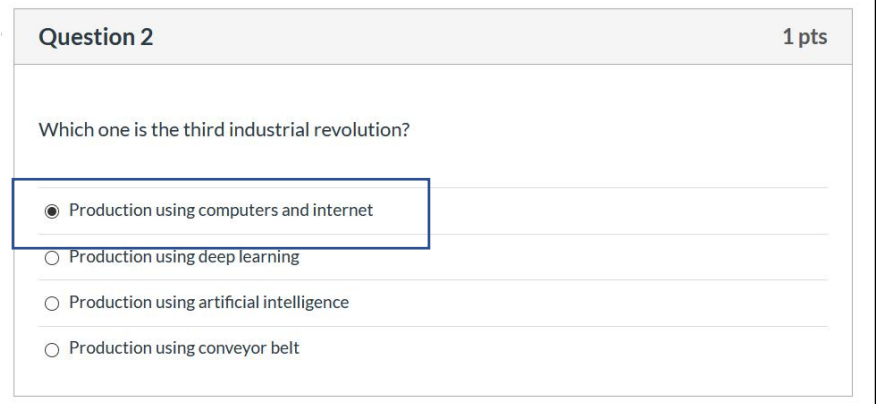


Can a complex movement program be inherited?

- ◉ Only for primates
- ○ No
- ○ Only for humans
- ○ Yes, in general

Can a complex movement program be inherited?

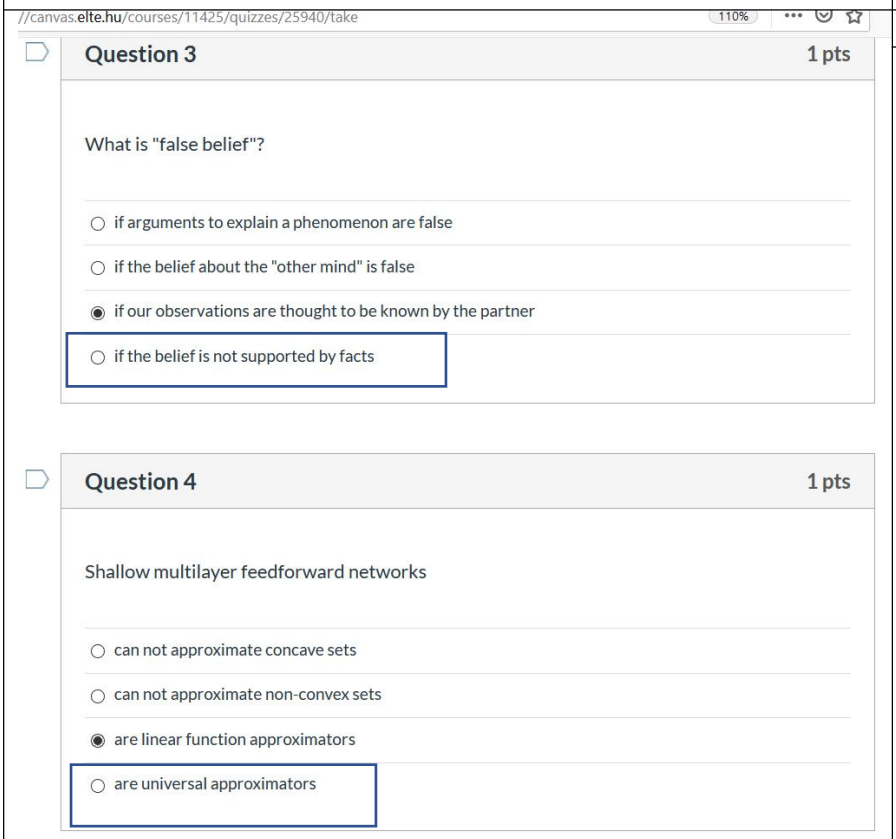


Question 2 1 pts

Which one is the third industrial revolution?

- ◉ Production using computers and internet
- ○ Production using deep learning
- ○ Production using artificial intelligence
- ○ Production using conveyor belt

Which one is the third industrial revolution?



//canvas.elte.hu/courses/11425/quizzes/25940/take 110%

Question 3 1 pts

What is "false belief"?

- ○ if arguments to explain a phenomenon are false
- ○ if the belief about the "other mind" is false
- ◉ if our observations are thought to be known by the partner
- ○ if the belief is not supported by facts

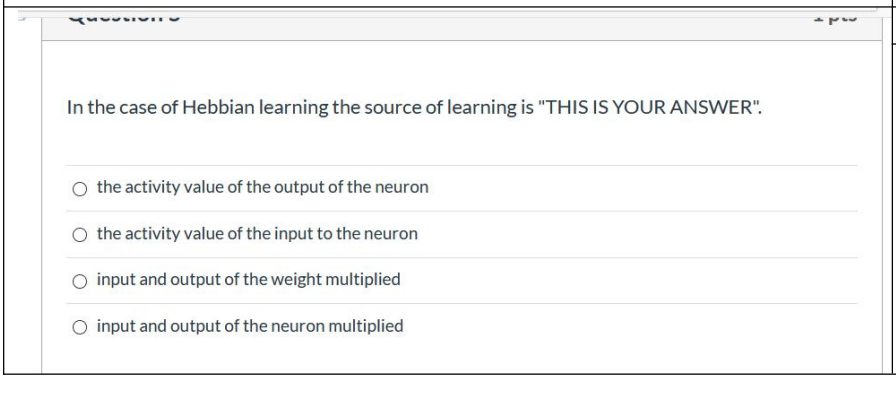
What is false belief?

Question 4 1 pts

Shallow multilayer feedforward networks

- ○ can not approximate concave sets
- ○ can not approximate non-convex sets
- ◉ are linear function approximators
- ○ are universal approximators

Shallow multilayer feedforward networks



In the case of Hebbian learning the source of learning is "THIS IS YOUR ANSWER".

- ○ the activity value of the output of the neuron
- ○ the activity value of the input to the neuron
- ○ input and output of the weight multiplied
- ○ input and output of the neuron multiplied

In the case of Hebbian learning the source of learning is

Input and output of the weight multiplied

The size of the representation of a sparse autoencoder "THIS IS YOUR ANSWER" as/than the dimension of the input.

- ○ is either larger, smaller or the same
- ○ the same
- ○ smaller
- ○ larger

The size of the representation of a sparse auto encoder

larger

Question 8 1 pts

What does the complexity of an optimization task depend on?

- ○ the number of dependent variables of the task
- ○ the wall-clock time to solve
- ○ the number of independent variables of the task
- ○ the number of available processors

What does the complexity of an optimization task depend on?

the synthesis of energy systems is a complex optimization task depending on multiple time series

What is the curse of dimensionality?

- ○ the dimension of the search space decreases with the number of variables
- ○ search space increases exponentially with the number of dimensions
- ○ the larger the dimension of the problem, the larger the number of dependent variables
- ○ in a bounded world, the volume of a sphere of radius 1 increases with the number of dimensions

lecture 3 - 10th slide

What is the curse of dimenstionality?

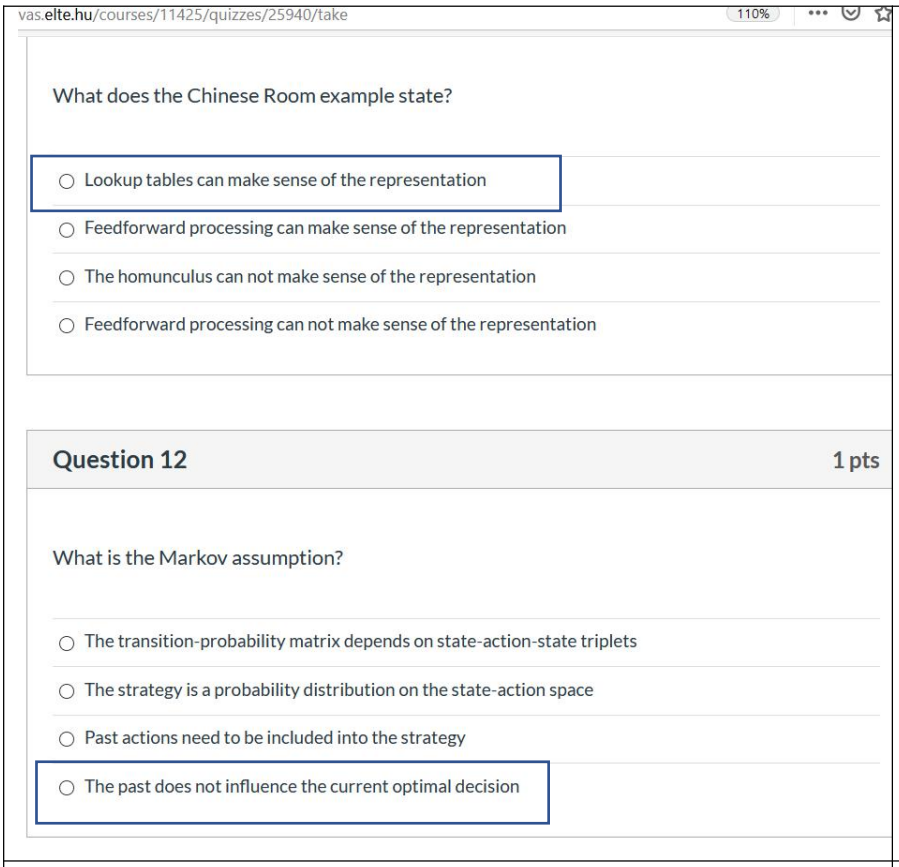
Question 10 1 pts

What is missing from typical Deep Networks that could promote explainability?

- ○ synchronous operation
- ○ recognition by components
- ○ holistic recognition
- ○ few layer recognition

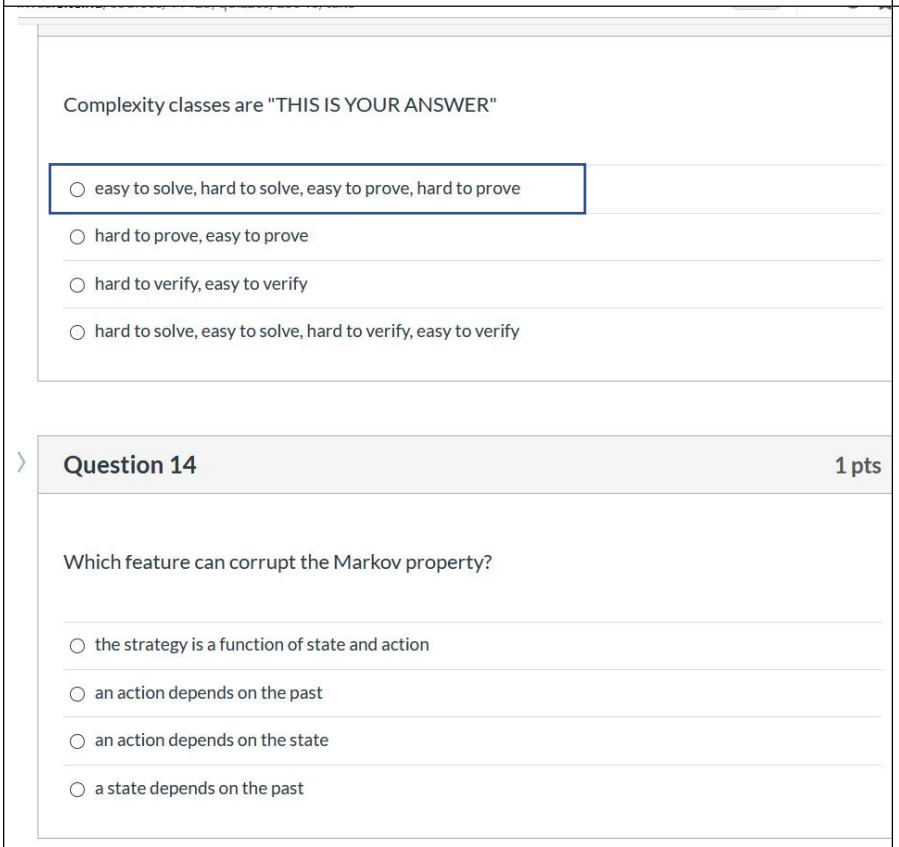
What is missing from typical Deep Networks that could promote explainability?

Answer: **Recognition by components**.



What does the Chinese Room example state?
(this picture has the wrong answer)
Correct answer:
Feedforward processing can not make sense of the representation

What is the Markov assumption?



https://duongquangduc.wordpress.com/2017/02/13/complexity-classes/

Complexity classes are

Which feature can corrupt the Markov property?

A state depends on the past

In the Necker cube illusion "THIS IS YOUR ANSWER"

- ○ one can not switch the illusions, but can stop one interpretation
- ○ one can switch the illusions, and can stop one interpretation
- ◉ one can not switch the illusions, and can not stop one interpretation
- ○ one can switch the illusions, but can not stop one interpretation

In the Necker cube illusion

„we cant control which one we see, and cant save one of the interpretation, cant stop changing either."

Question 16 1 pt

How do you train a deep network for superresolution?

- ○ Input downscaled image, output blurred image
- ○ Input downscaled image, output real image
- ◉ Input real image, output downscaled image
- ○ Input upsampled image, output downsampled image

How do you train a deep network for superresolution?

Super-resolution is the process of recovering a high-resolution (HR) image from a low-resolution (LR) image. Super-resolution models are trained with LR images as input and HR images as target.

How can you improve the Markov property?

- ◉ by learning the transition-probability matrix
- ○ by the optimization of the decisions
- ○ by including the past into decision making
- ○ by learning the reward function

how can you improve the Markov property? Answer: by including the past into decision making.

Question 18 1 pts

What is crowdsourcing?

- ○ many tasks are solved simultaneously in one optimization
- ○ many tasks are solved sequentially (after each other) in several optimizations
- ○ a company gives the task to another that gives to another and so on, forming a chain
- ○ many people work for a common goal, often innovation, problem solving, or efficiency

What is crowdsourcing?

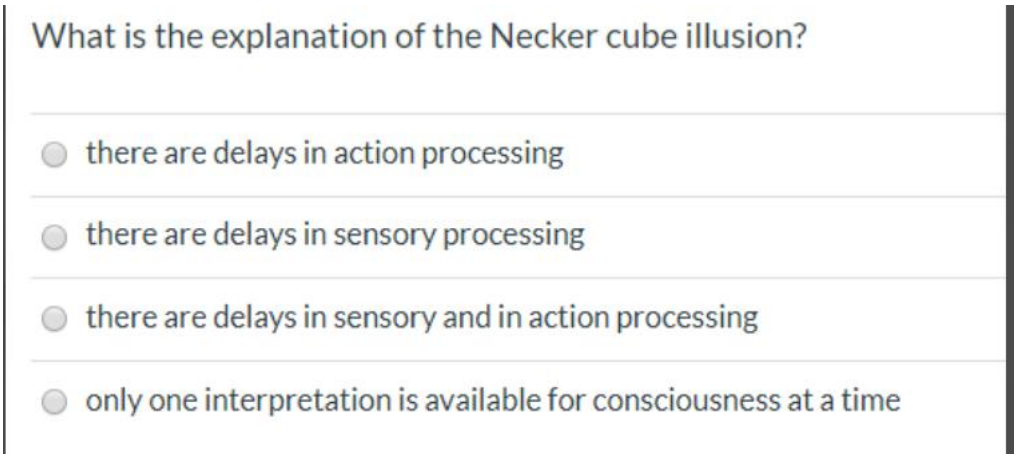
Question 19 1 pts

What is the dualist resolution of the homunculus fallacy?

- ○ The homunculus estimates the output
- ○ The homunculus is immaterial
- ○ Outputs are the results of feedforward processing
- ○ Measurement theory of quantum physics resolves the fallacy

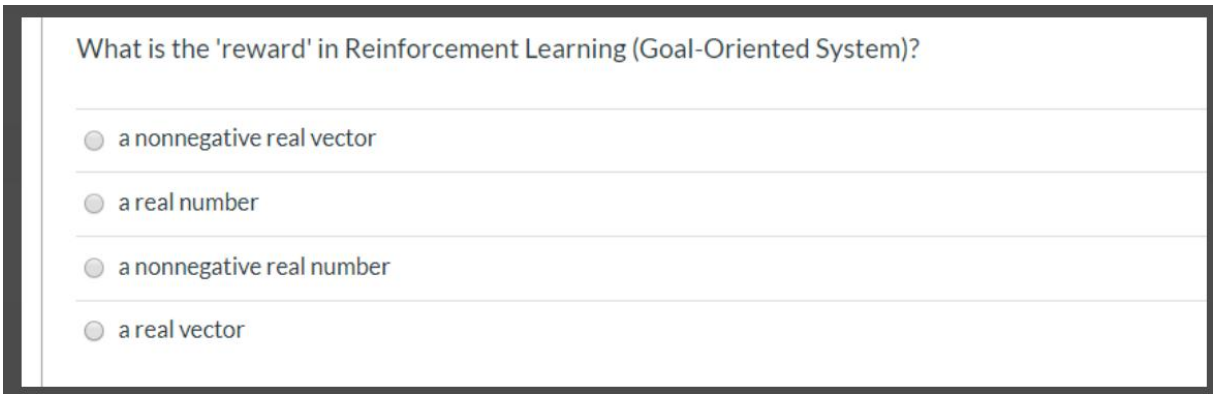
A dualist might argue that the homunculus inside the brain is an immaterial one

What is the dualist resolution of the homunculus fallacy?



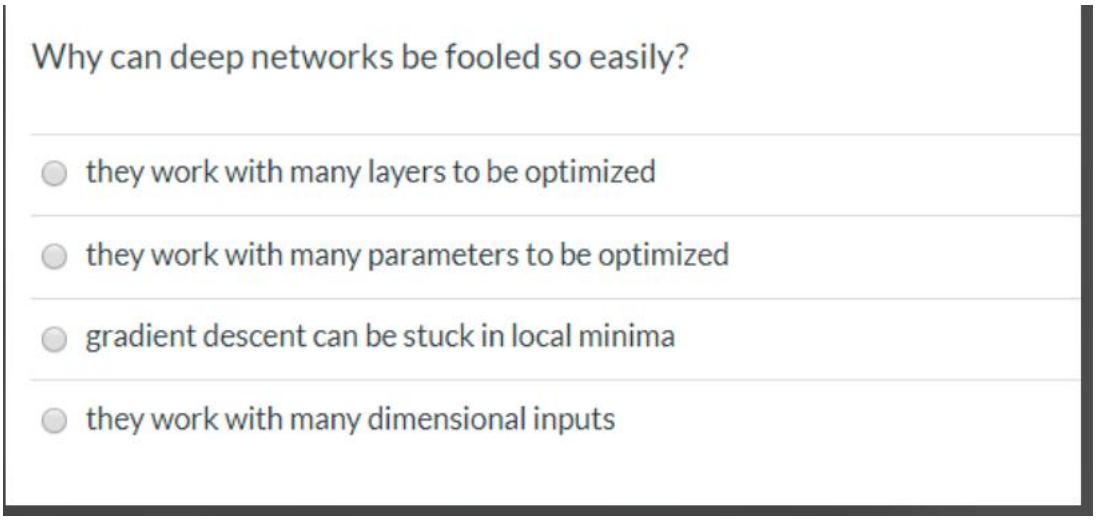
What is the explanation of the Necker cube illusion?

Answer: **There are delays in sensory and in action processing**



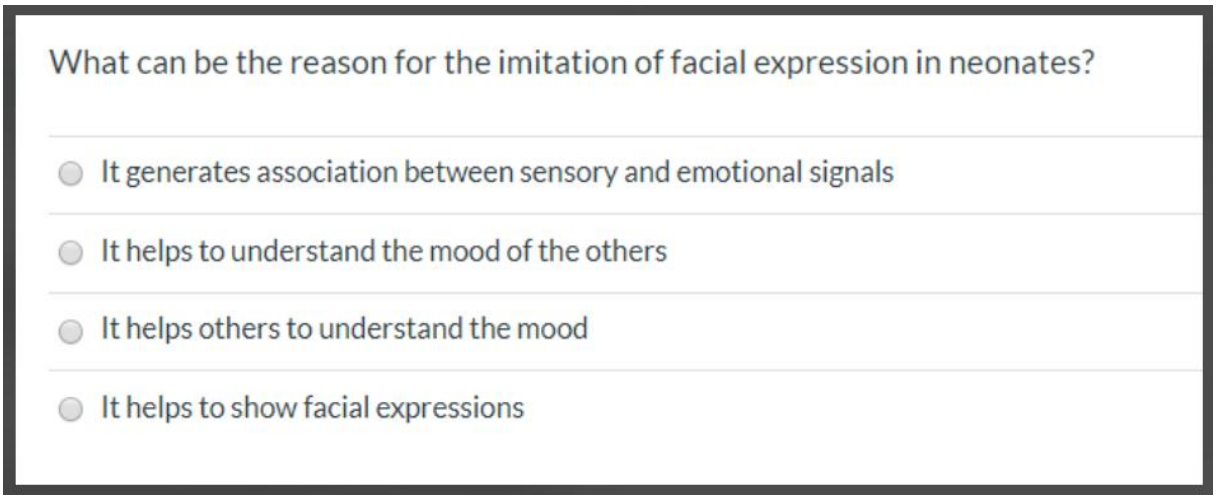
What is the reward in Reinforcement learning?

Answer: a real number



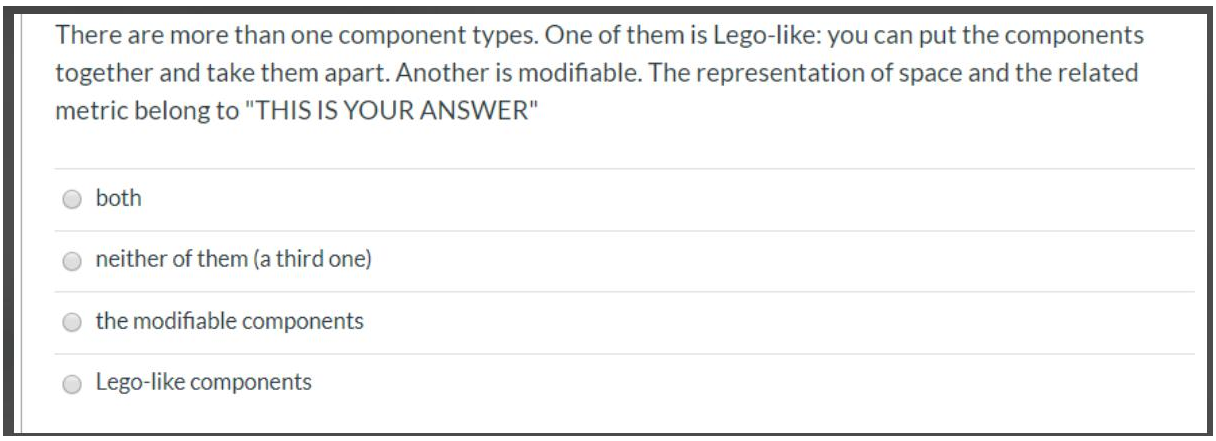
Why can deep networks be fooled so easily?

Answer:**They work with many dimensional inputs**



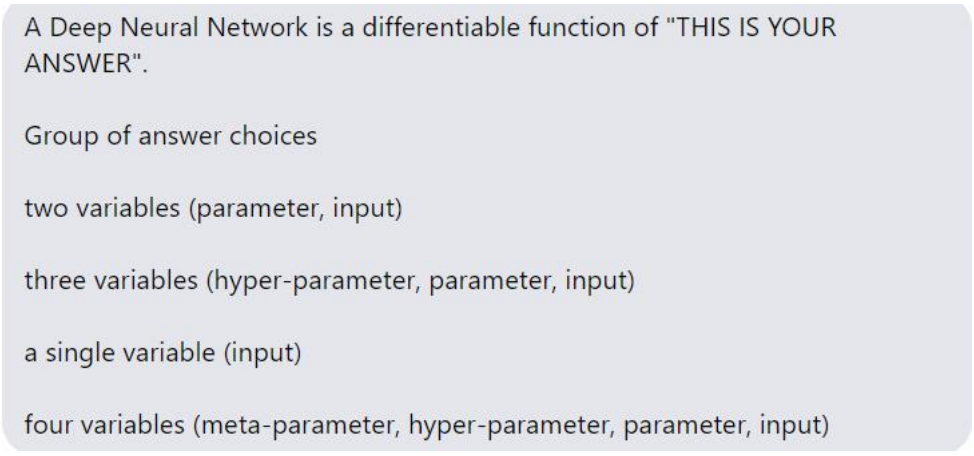
What can be the reason for the imitation of facial expression in neonates?

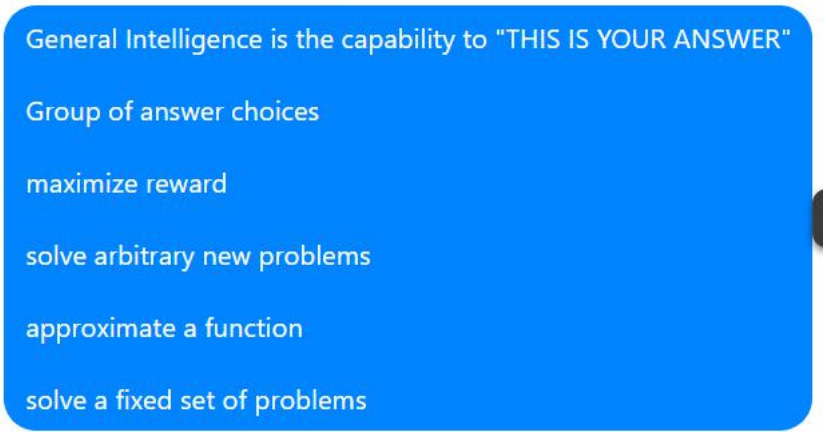
Answer: **It generates association between sensory and emotional signals.**



There are more than one component types. One of them is Lego like:

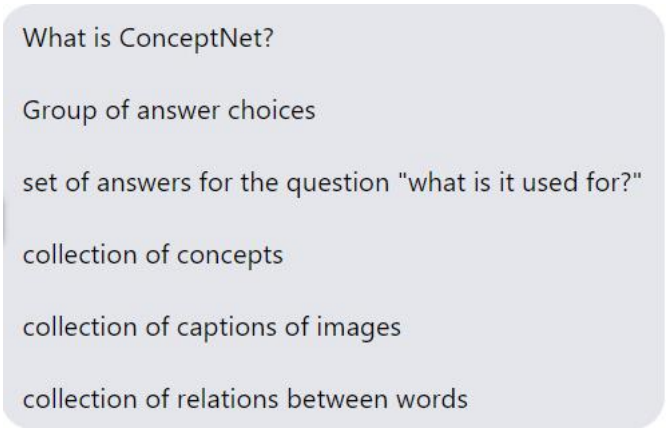
Answer:both





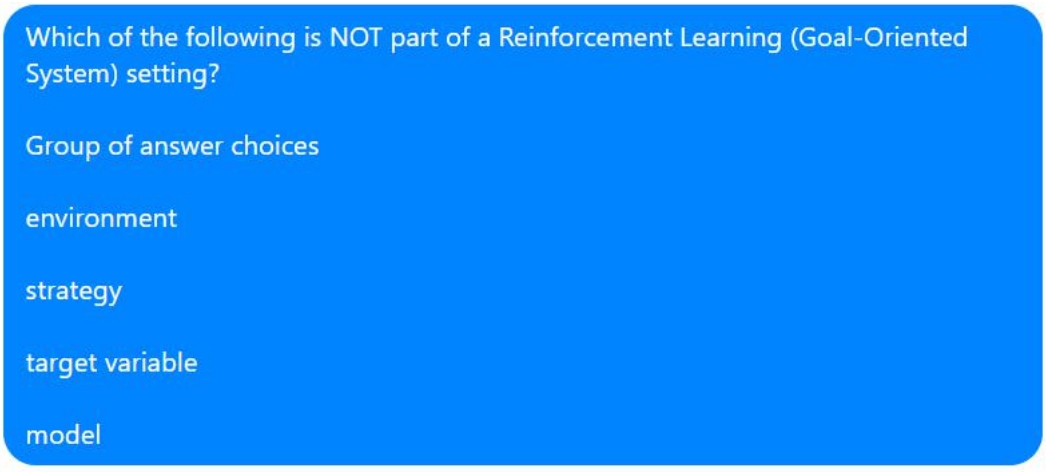
General Intelligence is the capability to:

Answer: solve arbitrary new problems



What is ConceptNet:

Answer: Collection of relations between words



Which of the following is NOT part of a Reinforcement learning(Goal-Oriented System) setting?
Answer: Model

A Deep Neural Network is a differentiable function of **two variables(parameter,input).**

What can be the reason for the imitation of tongue protrusion? It should be an answer related to breastfeeding.

What is the relation between a fully convolutional network (i.e., there are no dense layers) and the weight values of the templates?
Weight values of the templates correspond to some of the weights of the CNN.

Can a complex movement program be inherited?
Yes, in general.

Which one is the third industrial revolution?
Production using computers and Internet.

Paper Folding
Fold a paper of 0.1 mm thickness 50 times. How thick will that be?

Much Larger. (Other possible answers were: 100m, Earth-Moon distance, 100km)

Communication:

What is the learning task that is worth to communicate/talk about?

Hard to learn and easy to verify

Neural Response:

What can be the reason for the similar neural responses when the motion is executed by the self or by others?

It reinforces the making sense process: the muscle related neurons ‘confirm’ that they could execute the same action

Tongue Protrusion:

What can be the reason for tongue protrusion?

It is part if the general imitation system

Homunculus Fallacy:

What is the autoencoder-based resolution of the homunculus fallacy?

The representation makes sense of the input by reconstructing it.

What is the starting point of the homunculus fallacy?

Somebody should make sense of the representation.