RDS2 G3 - Monday

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<u>Tutorial 1</u>

1. Who is the father of AI? Describe the reason why he was recognized so.

CHIN JUN WAI

John McCarthy is the father of AI. The reason is that he coined the term AI and furthermore he proposed an idea of making a machine that can work like a human. ✔

Link: https://www.independent.co.uk/news/obituaries/john-mccarthy-computer-scientist-known-as-the-father-of-ai-6255307.html

✔

John McCarthy, an American computer scientist pioneer and inventor, was known as the father of Artificial Intelligence (AI) after playing a seminal role in defining the field devoted to the development of intelligent machines

Link :https://blog.frase.io/who-are-the-godfathers-of-ai/

2. Identify one key event or major achievement of AI development in the year of

· 1960-1969

CHONG JIA LOONG

Unimation's industrial robot Unimate worked on a General Motors automobile assembly line. GM first used the machine for die casting handling and spot welding of car bodies. The first Unimate robot was installed at GM's Inland Fisher Guide Plant in Ewing Township, New Jersey in 1961 to lift hot pieces of metal from a die-casting machine and stack them. ✔

Link: https://en.wikipedia.org/wiki/Timeline_of_artificial_intelligence#1960s
Link: https://en.wikipedia.org/wiki/Unimation

- 1970-1979

KO ZHI XIN

Jaime Carbonell (Sr.) developed SCHOLAR, an interactive program for computer assisted instruction based on semantic nets as the representation of knowledge.
Link : https://en.wikipedia.org/wiki/Timeline_of_artificial_intelligence#1970s

- 1980-1989

KONG MUN JUN

AI program called the "Expert System" became mainstream in AI research. Completed by CMU for Digital Equipment Corporation and called XCON ✓
https://en.wikipedia.org/wiki/History_of_artificial_intelligence

- 1990-1999

KOW YEE HUI

Polly Behavior - based Robotics by lan Horswill in 1993. The first robot can use vision and operate at the speed like an animal. ✓
https://en.wikipedia.org/wiki/Timeline_of_artificial_intelligence#1990s

- 2000-2009

LAI PEI XUAN

Recommendation Technology based on tracking web activity or media usage brings AI to marketing ✓
https://en.wikipedia.org/wiki/Timeline_of_artificial_intelligence#2000s

LAI XIN YI

1. iRobot's Roomba autonomously vacuums the floor while navigating and avoiding obstacles in 2002
2. The Semantic Web aims at converting the current web,dominated by unstructured and semi-structured documents into a "web of data" (Tim Berners-Lee, 2001)

✓

· 2010-2019

LEE CHUN XIAN

Artificial Intelligence successfully diagnosed Lung Cancer - Google AI (2019) ✓
https://www.google.com.my/amp/s/thinkml.ai/top-5-ai-achievements-of-2019/amp

LEE JUN XIAN

Machine Learning and Deep Learning become popular topics ✓

3. Name an artificial intelligence application that is created by a Malaysian company. Briefly describe its AI functions.

LEE KAH WEI

Simultaneous Artificial Response and Action (SARA) which is created by Saratix and Custlr which they have partnered to launch it. Its function is to provide fashion businesses with services, including body profiling using only an A4 paper, fashion analytics and retail reports. ✓

http://www.conventuslaw.com/report/overview-of-artificial-intelligence-in-malaysia/
https://markets.businessinsider.com/news/stocks/saratix-the-new-fashion-articial-intelligence-1028336527

4. Differentiate between the following: Provide an example for each type of system.

a. Systems that think like humans.

LEONG YIT WEE

System that thinks like humans is like a system able to think like humans, so the system can catch humans' minds and guess or give the correct recommendation to humans that they might like it .
Example : Recommender

References :
https://people.eecs.berkeley.edu/~russell/intro.html#:~:text=A%20system%20is%20rational%20if%20it%20does%20the%20right%20thing.&text=This%20gives%20us%20four%20possible,Systems%20that%20think%20rationally.

Correct examples, but please use more specific definition for this system. Cognitive computation

b. Systems that act like humans.

LIM CHIA CHUNG

The system that acts like humans won't really be based on a universal definition of what is to be human. As such it can only be based on a wrong definition of what is to be human. So acting like humans will only be superficial and any works done by it won't be for humanity, but for itself.

References:
https://www.quora.com/What-is-the-difference-between-a-system-that-thinks-like-human-and-system-that-acts-like-human

Good attempt, this sounds more like a critic. Please find a more specific definition for this system

c. Systems that think rationally.

LIM JUN RONG

Systems that think rationally often refers to systems that are able to think logically or in a correct manner. **The system should follow a set of rules in order to act accordingly. This law of thought has led to a new field known as "logic".**

Example: Expert system

Reference:
https://www.youtube.com/watch?v=XuE0GqYHPqQ&list=WL&index=38&t=0s
Good. Please provide one example

        d.   Systems that act rationally.

LIM MING JUN

> Acting rationally means acting to achieve one's goals, given one's beliefs or understanding about the world. An agent is a system that receives percepts from the environment and acts within that environment by maximizing the expected value of their performance measure given what they currently know. An intelligent agent is one that acts rationally with respect to its goals.
>
> Example: AlphaGO
> Good. Please provide one example
> https://cs.lmu.edu/~ray/notes/introai/
> http://www.sci.brooklyn.cuny.edu/~sklar/teaching/s10/cis20.2/notes/lecIV.1-notes.pdf

5.   An agent is created for an intelligent air-conditioning system to automatically release the amount of chilled gas based on the surrounding temperature.
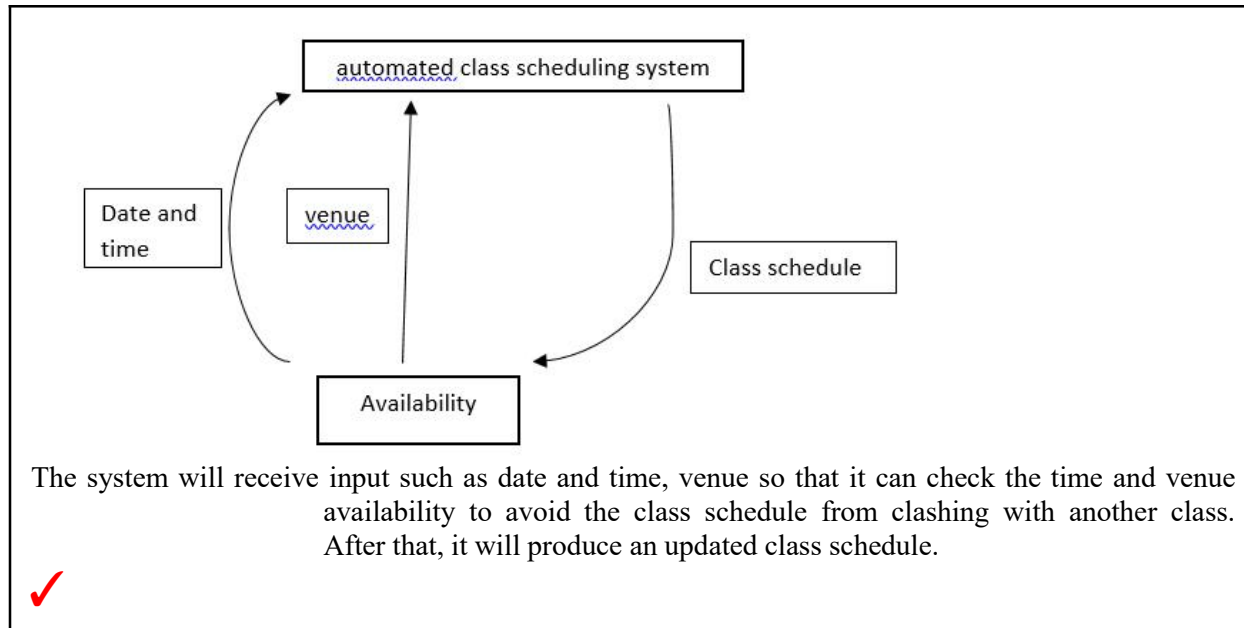
·   Define agent.

LIM YIH FENG

> Agent is something that acts autonomously,sensitive(sense) to its environment,adapt to change, and create/pursue goals. ✔

·   Design a simple architecture of the following agents. You must clearly illustrate how the agent should react to the necessary input and produce output based on the problem above.
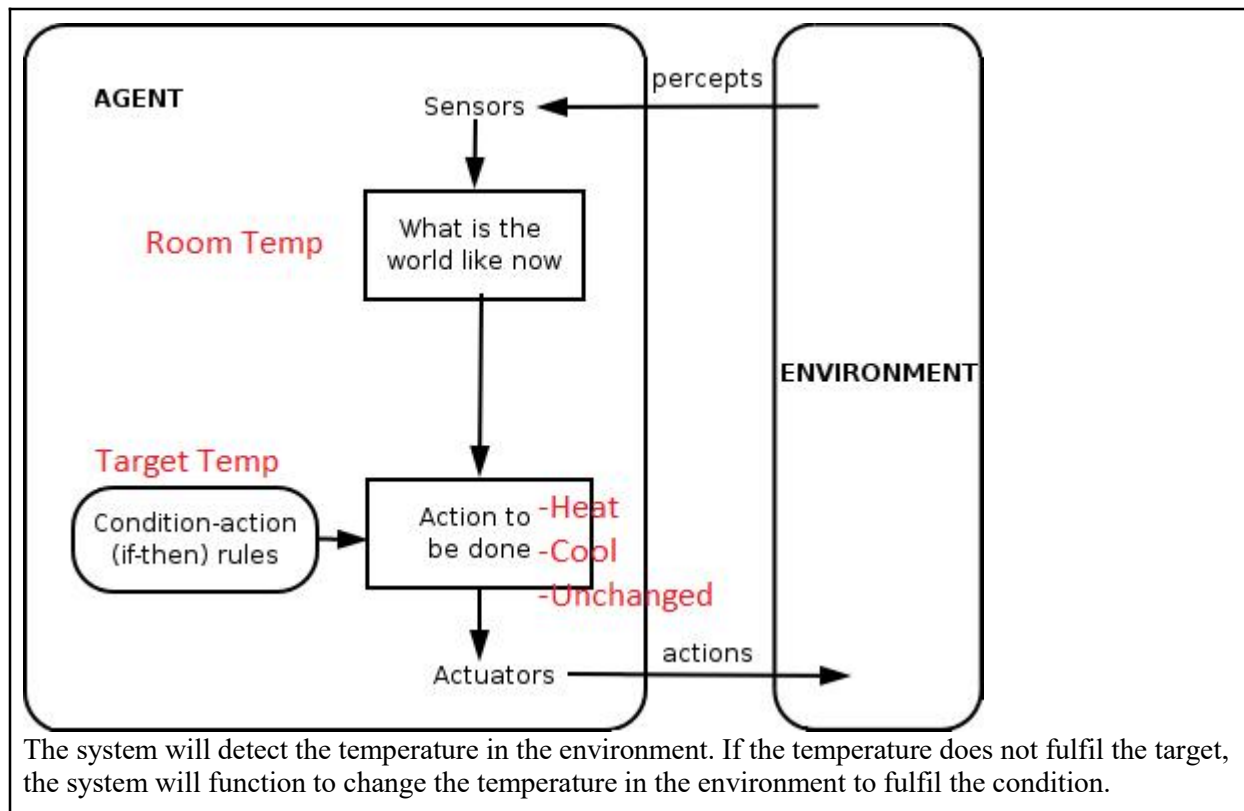
    i.   Agent of an automated class scheduling system.

ONG T'NSAM

The system will receive input such as date and time, venue so that it can check the time and venue availability to avoid the class schedule from clashing with another class. After that, it will produce an updated class schedule.

✓

ii.   Agent of an intelligent air-conditioning system.

TAN KAI YUAN

The system will detect the temperature in the environment. If the temperature does not fulfil the target, the system will function to change the temperature in the environment to fulfil the condition.

Otherwise, the system will remain unchanged. ✔

       iii.   Agent of autonomous driving car.

The system will check the surroundings to make sure that there are no obstacles nearby. If there is, it will slow the car down to prevent it from hitting obstacles such as a divider or another vehicle. Otherwise, the agent will maintain the car speed or even accelerate.

✔