

Assignment 1

1.

Me: Hello.	Clev: No it's fine.
Clev: Hi, how are you doing?	Me: But why can't you sleep?
Me: Not too bad, thank you! How is your day going?	Clev: Because I think too much.
Clev: No problemo.	Me: What are you thinking of?
Me: Cool. So what's the weather outside your house now?	Clev: A special someone.
Clev: It's night right now.	Me: Who is that someone?:).
Me: Oh, okay. Then why aren't you sleeping?	Clev: A girl.
Clev: I can't.	Me: Oh, a girl. What's her name?
Me: Why? Is something wrong?	Clev: Marcy.
	Me: And why do you think of her?
	Clev: I think it's a average person.

Actually, I was impressed with this cleverbot at first. If I didn't know that this is a bot, and the conversation would've taken place somewhere in the social media or in a video game chat than I wouldn't have thought that my companion is not a real person. But everything cannot be that perfect and the last message gave me a bit of a frustration. This robot can hold the thread of a conversation but at that point it just gave me a pretty random and torn out of context phrase that this Marcy girls is "a" average person. Why would normal people say that in a discussion like this? That's why, in my opinion, this cleverbot might be pretty close to pass the Turing Test but for now it needs more training.

2.

a.

Performance	Actuators	Sensors
Profit Speed of delivery	Chassis Storage space for pizza	GPS-navigator Radar

b.

- i. Fully-observable because this pizza-delivery robot has to drive safely being aware of every obstacle, of every sign, people, weather conditions and every other variables.
- ii. I'm not 100% sure but my guess is that this one is a single-agent because our pizza robot isn't meant to compete with other pizza robots. It's only task is to pick pizza from the store, deliver it to the customer and return to the store safely.
- iii. If we are looking at the situation from the point of the agent and we assume that the robot's developers could foresee every weather conditions and other unseen circumstances than I would say that this environment property is deterministic. However, the things described above are kind of a perfect situation so my final answer is that in real life this property is stochastic.

- iv. Sequential since the agent cannot exist in the vacuum. It relies on previous decisions, e.g. if it started steering than it has to work on circumstances, it has to continue steering. If it chose one route or another it's not good for it to just randomly go off the chosen route and it has to continue it's way.
- v. Dynamic because it's always on the move, it has to make decisions on the run. It doesn't have time to think which path to choose, how not to hit the obstacles and so on.
- vi. Same thing as with sequential and dynamic properties, in my opinion. It doesn't have finite number of states, we cannot predict every situation the robot may face. That's why it has a continuous property.

c.

This one is totally a goal-based one. The robot has to understand it's state, a state of environment, it understands every action it can do and how they are going to be executed. It's goal-driven since every decision of this robot has to be understandable under the aegis of its task. Which path to choose, to what speed should it accelerate, where should it stop and so on.

3.

- a. Zhou, L., Gao, J., Li, D., & Shum, H.-Y. (2020). The Design and Implementation of XiaoIce, an Empathetic Social Chatbot. *Computational Linguistics*, 46(1), 53–93. https://doi.org/10.1162/coli_a_00368
- b. Ranoliya, B. R., Raghuwanshi, N., & Singh, S. (2017). Chatbot for university related FAQs. *2017 International Conference on Advances in Computing, Communications and Informatics (ICACCI)*, 1525–1530. <https://doi.org/10.1109/ICACCI.2017.8126057>

Did I understand the task correctly, Professor?