

Question 1) Describe 20 of your real life decision making problems that you face in your life. Describe the uncertainty in terms of whether it is deterministic or not, problem domain fully observable or partially observable etc, Must include the comprehensive analysis of different issues that you need to consider while you are taking those decisions.

1. Whether or not to eat breakfast - mostly deterministic, partially observable since I don't know entirely how the decision will affect me later, and the problem domain is my day to day activities which could be affected by the decision, as well as my monetary situation since the decision to eat expends resources
2. What to wear for the day - deterministic in regards to weather, stochastic in regards to everything else (i.e., if it's warm and I am wearing a t shirt, the choice of t shirt will be mostly stochastic), observable, and the problem domain is my own personal comfort and the perception of me by others
3. Whether to do homework right after getting it assigned or putting it off until later - deterministic, partially observable since new info could arise concerning homework if I wait, and the problem domain is my schooling and grades
4. Which language to use for my term project in CS 201 - deterministic, observable, and the problem domain is software engineering and the computer science department at wvu tech
5. Which store to get groceries from - deterministic based on relative cost and distance from me, observable, and the problem domain is my nutrition and finances
6. Who to partner with for a school project - deterministic, partially observable since I don't fully know about potential partners and their qualities, and the problem domain is the computer science department at wvu tech and my grades
7. Whether I want to make or buy coffee in the morning - deterministic based on my energy level and how much sleep I got the night before, fully observable, problem domain is my energy level and performance at whatever I am doing that day as well as my mood
8. Whether or not to eat lunch - mostly deterministic, partially observable since I don't know entirely how the decision will affect me throughout the day, and the problem domain is my day to day activities which could be affected by the decision, as well as my monetary situation since the decision to eat expends resources
9. Which framework to use for my CS 472 project - deterministic based on what I believe to be the best choice for my project, partially observable since I have no way of knowing entirely how my choice will play out with my project, and the problem domain is AI and my schooling
10. Where to stop and get gas - deterministic based on price and distance from my current location, observable, problem domain is my finances and ability to get places effectively
11. When to stop and get gas - deterministic based on time I have, observable, problem domain is my time management and ability to get places effectively
12. Whether to buy clothes online or in person - deterministic based on in person options and how long I am prepared to wait for items to arrive, fully observable, problem domain is how I look and functionality of my clothing
13. Whether or not to work out on a specific day - deterministic based on how I'm feeling and how much time I have that day, observable, the problem domain is my health and time management
14. What muscle group to work out / what type of workout - deterministic based on previous workouts and how I'm feeling, observable, problem domain is my health
15. Which courses to take next semester - deterministic based on availability and major requirements, fully observable, problem domain is my schooling and grades, and my ability to graduate

16. Which tv show to watch in my free time - somewhat deterministic, partially observable since I don't know fully how my choice will affect my future, problem domain is my overall happiness and to a degree my knowledge base depending on what I choose to watch
17. Whether to take physical or digital notes - deterministic based on needs, observable, problem domain is my schooling, grades, and knowledge base
18. What books to read in my free time - deterministic based on what i enjoy and see as productive, partially observable, problem domain is my knowledge base and happiness
19. What to eat for dinner - mostly deterministic, partially observable since I don't know entirely how the decision will affect me, and the problem domain would be my nightly activities as well as my morning activities which could be affected by the decision, as well as my monetary situation since different decisions expend different amounts of money
20. How to study for an exam - deterministic based on the method i determine to be most effective for a given situation, partially observable since I can't really tell how it will affect the results, the problem domain is my schooling and grades

2) Could you propose any app idea which could help for taking those 20 decisions which could be generalized for any human being or university students. Elaborate on the app description and how you could implement those.

An app idea for helping to make these 20 decisions in a generalized fashion for any human would be one that allows you to list problems along with the details I provided for each, as well as a general baseline for what factors it needs to take into account when making decisions. For example if the problem is stochastic the program can just use RNG to make the decision, but if you list it as deterministic you would need to provide a basis for the decision so the program can attempt to provide optimal solutions based on those factors. The algorithm would be further refined by allowing feedback on the decisions so that the program can adjust the weights for specific factors in future decisions.