MSIS638

Chapter Case 1.1 a

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List 5 decisions we all make daily.

1. What to eat for the breakfast.

2. What podcast to listen.

3. How to commute to school.

4. Which parts should I train in the gym today.

5. When to do my research and homework.

The problem each of the decisions solve.

1. Make me an energetic start of the day.

2. Help me increase my English listening and speaking skill.

3. The problem of how to go to school.

4. Build a healthy body with moderate plan.

5. Ensure I can pass the class.

c)

Three alternatives for each decision.

1. a. Have a pickup at the breakfast store.

b. Wait until noon for having a brunch.

c. Grab some fruit and bread on the table.

1. a. Open the radio to select the podcasts.

b. Download from the internet and list them in the phone.

c. Listen the podcasts on YouTube.

1. a. Take the shuttle.

b. Take the subway.

c. Drive to school.

1. a. Follow my heart, training as many as I can.

b. Watch the YouTube channel and plan as the workout channel did.

c. Depends on my body’s situation.

1. a. Depends on the due of that homework. (E.g., Q1~Q4 situation)

b. Spend 2 hours a day on doing homework.

c. Doing homework at 7 am after I woke up.

d)

List at least three constraints for each of the decisions.

1. a. The materials for making breakfast.

b. Freshness of the food.

c. The time I wake up.

1. a. Battery of the device.

b. Only those channels to listen.

c. Devices itself (May influence the sound quality of podcasts)

1. a. The distance between home and school.

b. The arrival time and frequency of shuttle.

c. The routes for car.

1. a. My body limitation.

b. Gym opening time.

c. The equipment in the gym

1. a. Due date.

b. 24 hours as an arrangeable time.

c. Basic trivia. (Time consuming)

e)

Propose at least two feasible solutions for each decision.

1. a. Find a good restaurant. b. Cooking some simple dishes for breakfast.

2. a. Charging the battery and download the podcasts. b. Use the radio on the car.

3. a. Choose the best approach of commuting by car. b. Buying a MBTA pass.

4. a. Plan the menu in advance. b. Train the specific muscles.

5. a. Break the assignment into parts for better time management. b. Do the important and urgent one at first.

f)

For each decision, determine if the solution can be found by complete enumeration.

1. Yes, we can try each solution on different day.

2. Yes, we can try alternatives to get the optimal option(s)

3. Yes, time consuming for every solution is feasible.

4. Yes, it can use complete enumeration but will take several days.

5. Yes, we can steps by steps to find the best approach in doing assignment.

g)

Give three examples of daily decision problems with NO feasible solution.

1. Finishing the laundry within 5 minutes.

2. Write and submit the assignment after the due date.

3. Wake up at 5 am without any alarm clock or friends’ call.

h)

For each decision in part (g), propose two ways to make the problem feasible.

1. a. Increase the time limitation.

b. Control the amount of the laundry.

1. a. Divide the assignment into parts and finish the parts each day.

b. Start to work earlier.

1. a. Wake up later and prepare a clock.

b. Ask the roommate to help calling me up.