

Journal

CP5639 Assignment 2
Market Garden Simulator Journal
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Date completed: 26/01/2022

18/01/2022, 10-12:30pm

Task: (not py) Planning and writing pseudocode for main function

Challenges and process:

- a) Reading the document was not able to understand much at the beginning.
- b) After viewing the video, the assignment was much easier to understand and my intuition was tingling.
- c) had to view the document and video multiple times to consider the various nuances of creating the pseudocode for the program.
- d) Pseudocode for main function was created after a lot of considerations and struggles with the while loop and the other added function to consider.
- e) the pseudocode guide helped a lot with guiding me to create good pseudocode.

20/01/2022, 11:30-3:30pm

Task: (not py) Writing pseudocode for all other functions, completing main function pseudocode

Challenges and process:

- a) considered the various variables needed by each function to function properly, and assigned them appropriately
- b) Writing code for the function that displays plant list. This function joins the list and will display the plants in the plant list.
- c) Writing code for the function that displays the code for the status of number of days, number of plants and the total food remaining.
- d) Writing code for the function that returns to food to be added was a real struggle, but I figured it out in the end with some help from the previous practicals and advice from another fellow student in the same course. After many attempts finally created the for loop that prints the food created by each plant after a day and returns the food to be added.
- e) writing code for the function that checks if a plant needs to be removed from the plant list. The rainfall value needs to be less than 30 in rainfall threshold of 30mm, and a plant needed to be removed from the list and printed on which plant was deleted. Pseudo code was created for this.
- f) Checked the whole pseudocode and brushed up on the pseudocode of the main function. the full pseudocode was created.

20/01/2022, 10-10:30pm

Task: Considering import statements and constants, creating the print statements at the beginning of the program

Challenges and process:

- a) the import of random was considered and created, and the constants of the rainfall threshold of 30mm, minimum rainfall of 0mm, and maximum rainfall of 100mm were created.
- b) the print statements to introduce the program were written.

21/01/2022, 09-9:30am

Task:

- 1. Planning for writing the main function
- 2. Considering the values and functions to add before get instruction

Challenges and process:

- a) the main function was planned to write after viewing the pseudocode many times.
- b) the plant list was created which included the four plants.
- c) variable num_days was set to 0, and food was set to 0.
- d) the plant list was displayed and the status was displayed. These functions are to be created later

21/01/2022, 1:30-3pm

Task: Writing code for the instruction input and basic while loop structure for the input to check for the possible and valid inputs.

Challenges and process:

- a) the instruction input and basic while loop structure was created with looking at the structure in the pseudocode.

22/01/2022, 3-4pm

Task:

- 1. Planning writing the code for when the instruction is to wait
- 2. Writing the code for when the instruction is to wait within -> if instruction == "W":

Challenges and process:

- a) rainfall value was got with generating a random integer between the constants minimum rainfall and maximum rainfall. Rainfall value was printed.
- b) the number of days were added to increase by 1
- c) the food added what's to be got using another function get_food. this function was to be created later.
- d) another function is added which checked if a plant needed to be removed or not. This is to be created later

22/01/2022, 09-10pm

Task: writing code for the get_food function, i.e., get_food(rainfall_value, plant_list), to return the food to be added

Challenges and process:

- a) Writing code for the function that returns to food to be added was a real struggle, but I figured it out in the end with some help from the previous practicals and advice from another fellow student in the same course.
- b) After many attempts finally created the for loop that prints the food created by each plant after a day and returns the food to be added.

- c) Something creative was added to remove the comma at the end while printing the food generated by each plant. An if statement was given when number of plant was greater than 0 to print a "that is all" and return food to be added, else only to return food to be added. yeah

23/01/2022, 10-11am

Task: writing code for the remove_or_not function, i.e., remove_or_not(plant_list, rainfall_value), for checking and removing a plant if required.

Challenges and process:

- a) writing code for the function that checks if a plant needs to be removed from the plant list. The rainfall value needs to be less than 30 in rainfall threshold of 30mm, and a plant needed to be removed from the list and printed on which plant was deleted.
- b) The plant to be deleted was selected by random.choice(plant_list)
- c) The plan to be deleted was printed and removed from the plant list
- d) the plant list was returned
- e) when the plant didn't need to be removed the current list was immediately returned
- f) code for when the instruction is to wait within -> if instruction == "W": completed

23/01/2022, 10-10:30pm

Task:

1. Writing the code for when the instruction is to display within -> if instruction == "D":
2. creating the display function to show plants, i.e., display(plant_list)

Challenges and process:

- a) Within the display instruction a display function was created.
- b) This function joins the list with ", ".join(plant_list) , and will simply print the plants in the plant list.

24/01/2022, 11-12:30pm

Task: Planning writing the code for when the instruction is to add plant

Challenges and process:

- a) Needed to check the output in the document various times. To check the nuances within this.
- b) This was a challenge to plan but the was done after referring to the document few times.

24/01/2022, 9:30-10:30pm

Task:

1. Writing code for new_plant input
2. Writing the function to get a valid plant name, i.e., get_valid_plant_name(prompt)

Challenges and process:

- a) The add instruction was difficult to create and took time.
- b) An input for new plant was created.
- c) the input would be got with another function i.e., get_valid_plant_name(prompt).
- d) In the function, a while loop for when the new plant name was blank was created as invalid, and if not the input was returned.

25/01/2022, 11-12:30pm

Task:

1. Creating if-elif-else statement within the add plant section

Challenges and process:

- a) An if-elif-else statement was created to consider whether or not a plant could be added.
- b) if plant already exists, it wouldn't allow the plant to be added and print that the plant already exists in the plant list.
- c) if food was less than number of letters in the new plant to be added, it was not available to get plant, and it printed the food available and the food it would cost to get that new plant.
- d) else the new plant could be added. Then, new plant was added to list and the number of letters in the new plant was subtracted from the food.

26/01/2022, 11-11:30am

Task:

1. Writing code for when the user quits the program
2. Writing status function, i.e., status(num_days, plant_list, food)

Challenges and process:

- a) After viewing the document we had to create and if else statement for when the user quit. if number of plants in the plant list were 0, we had to print "you finished with no plants". Else we printed "you finished with these number of plants:" And displayed the plant list using the function.
- b) A status function was written that displays the code for the status of number of days, number of plants and the total food remaining.
- c) At the end we printed thank you for simulating when do user quit.

26/01/2022, 2-3pm

Task:

1. Checking if the program works fine by running it
2. Finishing it up.

Challenges and process:

- a) I ran the program a few times and it was functioning properly.
- b) then at one point it showed error. the error is because it was not able to make a random choice when plant list had no plant in it.
- c) the solution was that the if statement in the remove_or_not function had to be also number of plants more than 0.
- d) this was added to the code
- e) and the program was finished up