1. Which data structure(s) did you use for part 1? Why did you select these data structures?

Honestly, I chose LinkedList data structure because Capstone Project description said it would be the simplest to implement. ☺

1. What is the runtime (in asymptotic notation) of searching for a food type? Do you think there is a more efficient runtime?

O(n)

Using hash map (without collisions) - O(1)

1. Which data structures did you use for part 2? Why did you select these data structures?

I chose LinkedList data structure because Capstone Project description said it would be the simplest to implement. However after completing project I doubt that! ☺

1. What is the runtime (in asymptotic notation) of retrieving the restaurant data? Do you think there is a more efficient runtime?

O(n2)

Using hash map – O(n). Retrieving restaurant data from hash map is possible in O(1) however printing each corresponding restaurant out makes O(n).

1. Outside of this project, what are other innovative ways you can utilize data structures?

Accessing, inserting, deleting, finding, and sorting the data are some of the well-known operations that one can perform using data structures. Like Uber and Google Maps is using some form of Graph data structure to determine best route. Another innovative usage is in Python itself, which use hash tables to implement objects. In this representation, the keys are the names of the members and methods of the object, and the values are pointers to the corresponding member or method. There is huge amount of innovative ways how to utilize data structures.