1. **Which data structures did you use for part 1? Why did you select these data structures?**
   The data structure that I chose to use for part 1 is linked lists. The reason why I selected this data structure is because searching for food types in a linked list seemed the easiest option to me in terms of complexity. Other options like creating a Trie or a Hash Map looked a little more complicated in terms of concepts. In addition, I have a greater grasp of linked lists compared to any other data structure, which was another reason why I chose to use linked lists.

2. **What is the runtime of searching for a food type? Do you think there is a more efficient runtime?**
   I think that the runtime of searching for a food type in my program is Θ(N) (constant runtime). When the user enters the beginning letter of the food types they want to look at, my algorithm searches through the entire food types linked list to find the possible food types that start with the letter the user entered. After this process is done, the options are displayed to the user. Based upon the above description, it is valid to conclude that the runtime of searching for a food type in my program is Θ(N).

   I definitely think that there is a more efficient runtime than Θ(N). If you implement more efficient data structures like a Trie, the runtime gets improved.

3. **Which data structures did you use for part 2? Why did you select these data structures?**
   The data structure that I chose to use for part 2 is linked lists. One of the reasons why I chose to utilize this data structure is because I wanted to use a single data structure type for my whole project rather than using different ones. While it may be true that part 2 could have been done with other data structure types, which are much more efficient, I chose to utilize linked lists also because I wanted to get much better using them. In Part 1, the linked list I had implemented was very basic. Part 2 involved making a linked list that was very complex. My computer science university classes have a greater emphasis on solving problems using linked lists than any other data structure and due to this reason, I wanted to get much better at using linked lists by doing part 2 of my project with this data structure.

4. **What is the runtime of retrieving the restaurant data? Do you think there is a more efficient runtime?**
   I think that the runtime of retrieving the restaurant data is O(N^2). My reason for this is that as part of my algorithm for retrieving the restaurant data, I have to search through a main linked list to find the sub linked list which contains the appropriate data for the restaurant type the user entered. After finding the correct sub linked list, my program iterates through this entire data structure, and prints the restaurants for a particular food type. Overall, as my algorithm utilizes nested loops to retrieve the restaurant data, I believe that the runtime is O(N^2).

I definitely think there is a more efficient runtime than O(N^2). If you implement a more efficient data structure like a Hash Map (as outlined in the project description), the runtime can get improved.

5. **Outside of this project, what are other innovative ways you can utilize data structures?**
   Data structures can be utilized in many innovative ways outside of this project. Two examples would be building a bus transit network and building a queue machine. You could easily build a bus transit network with the help of graphs where different vertices would represent major bus stations and connecting these various bus stations would be many edges that are the bus routes. On the other hand, if you want to implement a queue machine, which is a machine that gives you a wait ticket with an order number if you order something in a restaurant, queues would prove to be very useful. Overall, there can be many innovative applications of data structures!