**Question 1:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Food** | **Age** | **Distance** | **Company** |
| Chinese | 44 | far | Good |
| Italian | 29 | Very close | Bad |
| Mediterranean | 47 | Very close | Good |
| Italian | 82 | Far | Good |
| Italian | 44 | Very far | Good |
| Chinese | 29 | Very far | Bad |
| Burgers | 29 | Very far | Bad |
| Chinese | 25 | Close | Good |
| Italian | 42 | Far | Good |
| Mediterranean | 25 | Close | Good |

Chinese: 3, Italian: 3, Mediterranean: 2, Burgers: 1

Good: 47,82,25,42,25. Average = 44

Bad: 29

**Question 2:**

1. It is better to decrease the number of attributes than to increase the number of objects.
2. Increasing object number:

The more the number of objects the model can learn better, hence increasing predictive performance. However, with very large object numbers, even for the low number of attributes, the visualization is not clear and increases data volume.

Reducing the number of attributes:

The reduction of attribute numbers prevents the dataset from being sparse and increases the performance of distance-based ML techniques. The disadvantage is that sometimes it may lead to important data loss which has significant information.