1. The “ID” attribute should always be removed because it is not part of the actual data.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1	-0.0127	-0.1506	0.1379	-0.0422	-0.0999	0.0128	-0.0333	-0.0071	0.1251	0.0315	0.0138	0.0688
2	-0.0127	1	-0.0031	-0.3391	0.6046	-0.5102	-0.0333	0.5435	0.6538	-0.5169	-0.0647	0.0448	-0.2715
3	-0.1506	-0.0031	1	-0.0023	0.0216	-0.0056	-0.0264	0.0093	-0.0036	0.0218	-0.0141	-0.0206	-0.0210
4	0.1379	-0.3391	-0.0023	1	-0.3069	-0.0653	0.6762	-0.6684	-0.4893	0.6608	-0.5264	-0.6851	0.5774
5	-0.0422	0.6046	0.0216	-0.3069	1	-0.3188	-0.0489	0.4385	0.5730	-0.3355	0.0918	0.0682	-0.2181
6	-0.0999	-0.5102	-0.0056	-0.0653	-0.3188	1	-0.3145	-0.1430	-0.3765	0.0829	0.1962	0.2464	-0.0901
7	0.0128	-0.0333	-0.0264	0.6762	-0.0489	-0.3145	1	-0.5404	-0.1698	0.5845	-0.7193	-0.8198	0.6557
8	-0.0333	0.5435	0.0093	-0.6684	0.4385	-0.1430	-0.5404	1	0.6285	-0.6979	0.4420	0.5502	-0.6397
9	-0.0071	0.6538	-0.0036	-0.4893	0.5730	-0.3765	-0.1698	0.6285	1	-0.5016	0.1432	0.3412	-0.4699
10	0.1251	-0.5169	0.0218	0.6608	-0.3355	0.0829	0.5845	-0.6979	-0.5016	1	-0.4295	-0.6054	0.6144
11	0.0315	-0.0647	-0.0141	-0.5264	0.0918	0.1962	-0.7193	0.4420	0.1432	-0.4295	1	0.6506	-0.5507
12	0.0138	0.0448	-0.0206	-0.6851	0.0682	0.2464	-0.8198	0.5502	0.3412	-0.6054	0.6506	1	-0.6783
13	0.0688	-0.2715	-0.0210	0.5774	-0.2181	-0.0901	0.6557	-0.6397	-0.4699	0.6144	-0.5507	-0.6783	1

2. 1:ID, 2:Milk, 3:PetFood, 4:Veggies, 5:Cereal, 6:Nuts, 7:Rice, 8:Meat, 9:Eggs, 10:Yogurt, 11:Chips, 12:Cola, 13:Fruit. Using absolute value greater than 0.4 as my threshold for decently correlated these are my findings: PetFood seems to not be related to anything. Milk has a positive correlation with Cereal and Eggs and a negative one with Nuts, Meat and Yogurt. Veggies are positively correlated with Rice, Yogurt and Fruit and negatively correlated with Meat, Eggs, Chips and Cola. Cereal is positively correlated with Rice and Meat. Rice is negatively correlated with Meat, Chips and Cola and positively correlated with Yogurt and Fruit. Meat is positively correlated with Eggs, Chips and Cola and negatively correlated with Yogurt and Fruit. Eggs are negatively correlated with Yogurt and Fruit. Yogurt is positively correlated with Fruit and negatively correlated with Chips and Cola. Chips are positively correlated with Cola and negatively correlated with Fruit. Cola is negatively correlated with fruit.
3. I removed Pet Food
4. [2, 1, 2, 4, 2, 1, 1, 37, 3, 26]. This seems to show there should be 3 clusters of size 37 26 and 37.
5. I would call the third group the “health nuts”. They buy very little milk, meat, eggs, chips, or cola and a lot of veggies, cereal, nuts, rice, yogurt, and fruit
6. The program would need to find the 2 points within each pair of clusters that are closest and use that distance.
7. Q: What is a contiguous cluster? A: a group of datapoints such that each point is closer to another point in the cluster than to any point not in the cluster.