Homework #7

7/5/2018

Problem 1

Variable values:

Food	# Of Servings
Celery, Raw	52.64371
Frozen Broccoli	0.25960653
Lettuce,Iceberg,Raw	63.988506
Oranges	2.2929389
Poached Eggs	0.14184397
Popcorn,Air Popped	13.869322

Objective function value (total cost): 4.337116797399999

Problem 2

Variable values:

Food	Chosen?	High Protein?	# Of Servings
Celery, Raw	1		42.399358
Kielbasa,Prk	1	1	0.1
Lettuce,Iceberg,Raw	1		82.802586
Oranges	1		3.0771841
Peanut Butter	1		1.9429716
Poached Eggs	1	1	0.1
Popcorn,Air Popped	1		13.223294
Scrambled Eggs	1	1	0.1

Objective function value (total cost): 4.512543427000001
Note that this is slightly higher than the objective function value from Problem 1 due to the additional constraints.

Optional Problem

Variable values:

Food	# Of Servings
Large Beans, pinto, mature seeds, raw	0.44195817
Large Gelatin desserts, dry mix, reduced calorie, with aspartame, add	0.037957996
Large Infant formula, MEAD JOHNSON, ENFAMIL, low iron, powder, not re	0.053807588
Large Infant formula, ROSS, ISOMIL, with iron, powder, not reconstitu	0.83765482
Large KRAFT, CRYSTAL LIGHT Sugar Free Low Calorie Soft Drink Mix Lemo	0.26197791
Large Milk, dry, nonfat, instant, with added vitamin A	0.11634609
Large Nuts, almonds	0.10061139
Large Oil, vegetable, sheanut	0.89031082
Large Salad dressing, french dressing, commercial, regular	0.42205824
Large Salami, pork, beef, less sodium	0.98960727
Large Seeds, cottonseed flour, partially defatted (glandless)	0.096607223
Large Snacks, potato chips, barbecue flavor	0.1850136
Large Spices, coriander leaf, dried	0.001406978
Large Spices, mustard seed, yellow	0.074882748
Large Spices, pepper, red or cayenne	0.17873768
Large Spices, tarragon, dried	0.07051542
Large Water, bottled, non carbonated, CALISTOGA	9999.3893

Note that we did not include any constraints for the maximum or minimum # of servings in this analysis, so we end up with some very large and very small values in the optimal model.

Objective function value (total cholesterol): 0.0