

AI2101/EE5606

Convex Optimization

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1 Diet Problem

There are three food items available, corn, milk, and bread. The table contains, the cost per serving, the amount of Vitamin A per serving, and the number of calories per serving for each food item. Also, there are restrictions on the total number of calories (between 2000 and 2250) and the total amount of Vitamin A (between 5000 and 50,000) intake in the diet. The goal of the diet problem is to select a set of food items that will satisfy a set of daily nutritional requirements at minimum cost.

The maximum number of servings is 10 per food item.

Food	Cost per serving	Vitamin A	Calories
Corn	\$0.18	107	72
2 % Milk	\$0.23	500	121
Wheat Bread	\$0.05	0	65