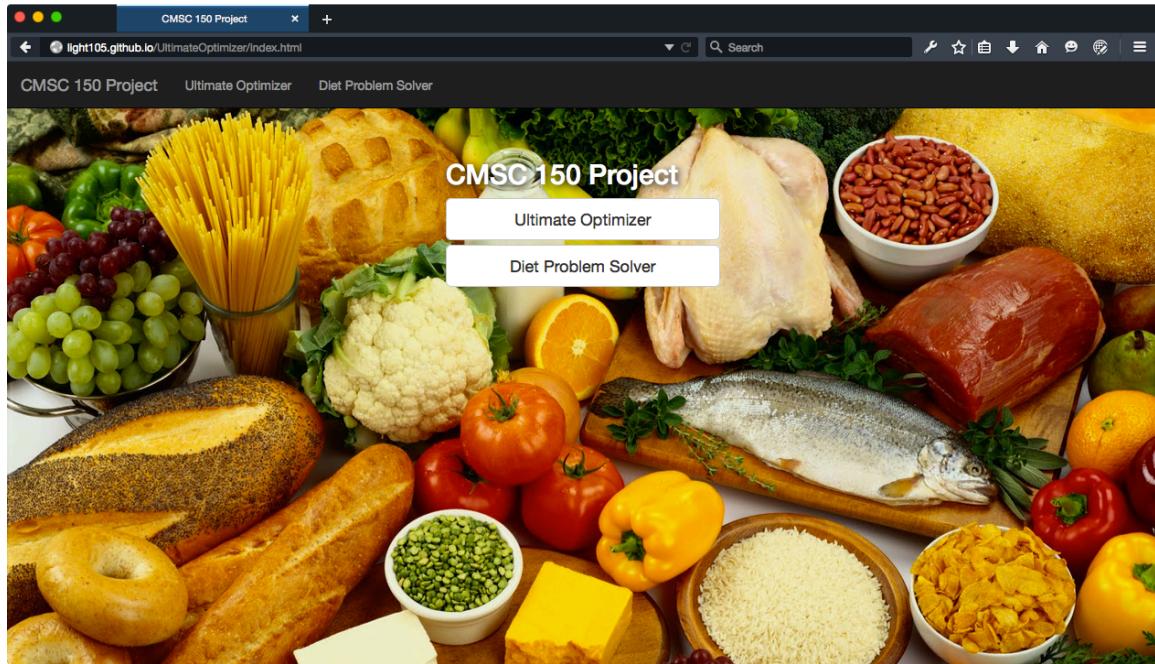


# Ultimate Optimizer: User Manual

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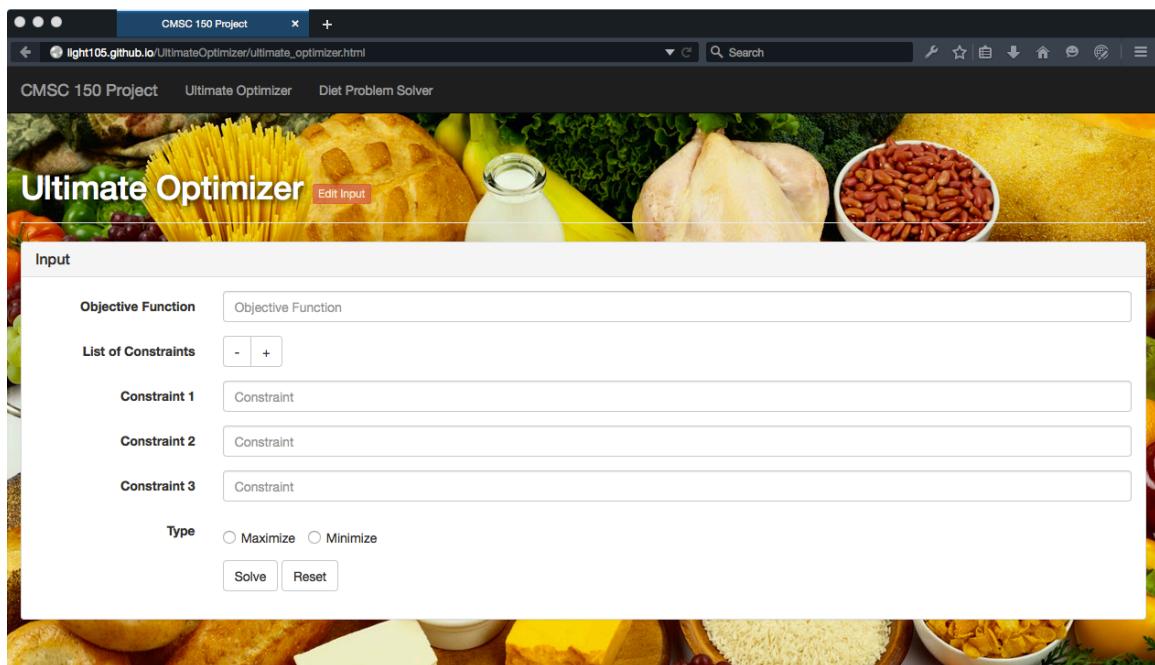
## Installation:

All you need is a browser (preferably Chrome, Firefox, or Safari) to run the application. Open the index.html to go to the home page.



## Ultimate Optimizer:

Select the Ultimate Optimizer link to go to the page.



In the Ultimate Optimizer page, you have an option if you want to minimize or maximize. You can also add and remove constraints. The program will only work with the correct form of input.

Objective Function:

$$\text{variable} = \text{coefficient} * \text{variable1} + / - \text{coefficient} * \text{variable2} + / - \dots$$

Constraint:

$$\text{coefficient} * \text{variable1} + / - \text{coefficient} * \text{variable2} + / - \dots <=/>= \text{constant}$$

Assuming that the input is correct. The program will work correctly.

Basic Solution						
x	y	S1	S2	S3	S4	p
1.33333333333333	0	0.6666666666666667	0	1.33333333333333	0	1.33333333333333

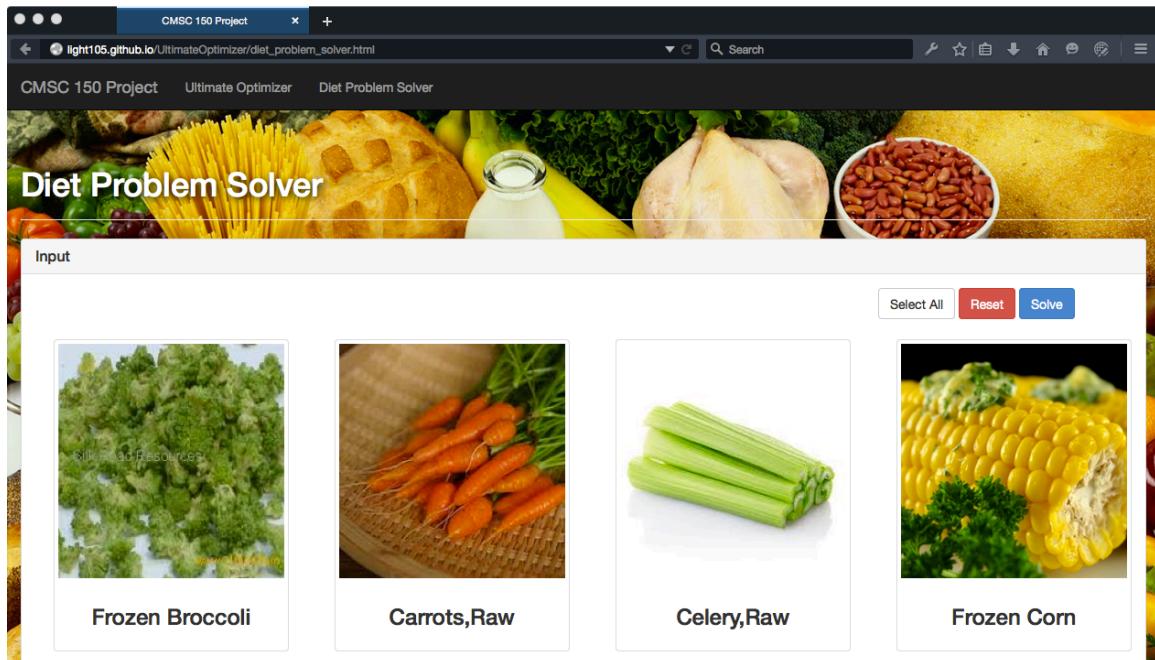
Tableau 5						
x	y	S1	S2	S3	S4	p
0	0	1.499999999999998	0.4999999999999994	0	1	0 1
0	0	-0.499999999999999	-0.4999999999999994	1	0	0 1
1	0	-0.499999999999999	-0.4999999999999994	0	0	0 1
0	1	1.499999999999998	0.4999999999999994	0	0	0 1
0	0	1	0	0	0	1 2

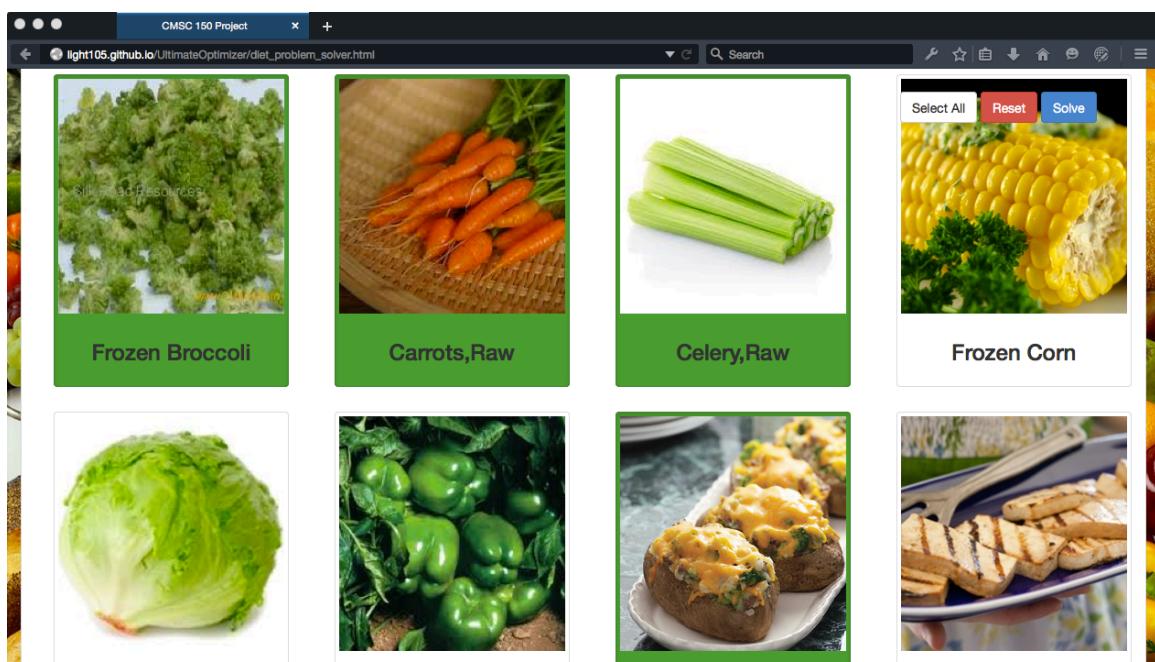
Basic Solution						
x	y	S1	S2	S3	S4	p
1	1	0	0	1	1	2

## Diet Problem Solver:

Select the Diet Problem Solver link from the Home Page or from the Navigation Bar.



Click a food to add to your diet. Click it again to remove it. The user has an option to select all or reset all input.



Once the user has decided for the foods he/she wants to include in his diet. Click Solve to solve for the serving of foods to meet the nutritional constraints and minimize cost.

CMSC 150 Project

light105.github.io/UltimateOptimizer/diet\_problem\_solver.html

Roasted Chicken

Procured Diet Plan

Your Input

You selected 19 foods to consider for your diet

The Optimized Menu

The cost of this optimal diet is \$2.711496296618686 per day

The Solution and Cost Breakdown by Food

Food	Servings	Cost(\$)
Frozen Broccoli	1.4959625940707335 Oz Pkg	0.23935401505131737
Potatoes, Baked	0.36802452828338794 Cup	0.022081471697003276
Tofu	1.6283274550194027 block	0.5047815110560149
Roasted Chicken	0.4370240805725366 lb chicken	0.36710022768093076
Wheat Bread	1.5635814226684064 Sl	0.07817907113342032
White Bread	10 Sl	0.6
Oatmeal Cookies	10 Cookie	0.8999999999999999

Apple Raw W/ Skin

Select All Reset Solve

Banana

Oranges

Close

Roasted Chicken

Oranges

Oatmeal Cookies

