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USER MANUAL

This app is a Diet problem solver. Its objective is to find the cheapest and most nutritious combination of foods that will satisfy all the daily nutritional requirements of an individual.

1. **Before running the app you have to install a few packages first just to make sure that the app will work properly. In the console just type:**

```
> install.packages("shiny")
> install.packages("shinyjs")
```

2. **After running the app you will see the welcome screen, in this screen you have to click the "Let's Get Started" button.**

WELCOME TO YOUR DIET PLANNER

We help choose the best diet meals for you.
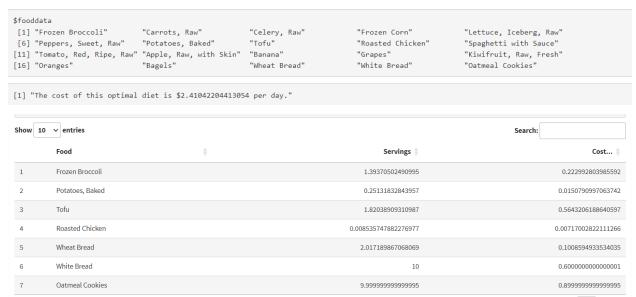
LET'S GET STARTED

3. After clicking the button, you will see a screen with a checklist of meal options, select the meals you would like to consider on your diet.

Choose meals that you want for the day

Pick Meals
- ☐ Frozen Broccoli
- ☐ Carrots, Raw
- ☐ Celery, Raw
- ☐ Frozen Corn
- ☐ Lettuce, Iceberg, Raw
- ☐ Peppers, Sweet, Raw
- ☐ Potatoes, Baked
- ☐ Tofu
- ☐ Roasted Chicken
- ☐ Spaghetti with Sauce
- ☐ Tomato, Red, Ripe, Raw
- ☐ Apple, Raw, with Skin
- ☐ Banana
- ☐ Grapes
- ☐ Kiwifruit, Raw, Fresh
- ☐ Oranges
- ☐ Bagels
- ☐ Wheat Bread
- ☐ White Bread
- ☐ Oatmeal Cookies
- ☐ Apple Pie
- ☐ Chocolate Chip Cookies
- ☐ Butter,Regular

After selecting meals, you are going to see the; **Submit, Reset, Include all,** buttons at the bottom of the screen, if you are already satisfied with your selections just click Submit, if you want to rechoose another set of meals, click reset, and in the case that you want to select all, click Include all.

☐ Crm Mshrm Soup,W/Mlk

☐ Beanbacn Soup,W/Watr

Submit | **Reset** | **Include All**

4. Once you clicked the **Submit** button, there are two possible outcomes for the app, it's feasible if the meals you selected given the constraints are met then the sample possible outputs could be like the following:

```
$fooddata
 [1] "Frozen Broccoli"        "Carrots, Raw"            "Celery, Raw"       "Frozen Corn"        "Lettuce, Iceberg, Raw"
 [6] "Peppers, Sweet, Raw"    "Potatoes, Baked"         "Tofu"              "Roasted Chicken"    "Spaghetti with Sauce"
[11] "Tomato, Red, Ripe, Raw" "Apple, Raw, with Skin"   "Banana"            "Grapes"             "Kiwifruit, Raw, Fresh"
[16] "Oranges"                "Bagels"                  "Wheat Bread"       "White Bread"        "Oatmeal Cookies"
```

```
[1] "The cost of this optimal diet is $2.41042204413054 per day."
```

Show 10 ∨ entries   Search:

	Food	Servings ⇕	Cost... ⇕
1	Frozen Broccoli	1.39370502490995	0.222992803985592
2	Potatoes, Baked	0.25131832843957	0.0150790997063742
3	Tofu	1.82038909310987	0.5643206188640597
4	Roasted Chicken	0.008535747882276977	0.00717002822111266
5	Wheat Bread	2.017189867068069	0.1008594933534035
6	White Bread	10	0.6000000000000001
7	Oatmeal Cookies	9.999999999999995	0.8999999999999995

In the event that your food selections does not satisfy the constraints set then the app would output the following:

INFEASIBLE. Try Again.   ✕

Optimization failed. Please try again.   ✕