Group: Team 3

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Demonstration Test Plan

1. Demonstrate Listing the food data

Build and run the project on Microsoft Visual Studio.

* Check to see if file opened successfully. Archive.txt should have been uploaded.
* Select menu item 5) to print out food data by sorted name.
* The following output should appear on the screen:

------------------------------------------------------------------

Food listed in Alphabetical Order

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Name Calories Grams Fat Cholesterol Sodium Protei

0 0 0 0 0

Adzuki Beans 295 0.2 0 18.4 17.3

Apple 130 0 0 0 1

Banana 110 0 0 0 1

Beef Pho 2936 48 280 3072 192

Bell Peppers 24 0.2 0 3.6 1

Brownies 151 4.82 88.45 18.12 1.36

Buckwheat Noodles 190 0.5 0 420 8

Cheddar 140 7 0 230 3

Chicken Pot Pie 484 29.1 875.15 42.71 13.04

Chocolate Milk 209 8.5 30 150 7.9

Coleslaw 213 8.5 7.09 326.06 1.42

Curry 230 11 0 1360 7

Fried Chicken 230 17 45 370 14

Honey 1031 0 0 13.6 1

Honey Ham 60 2.2 28.35 580 9

Lettuce 15 0 0 10 1

Potato 163 0.2 0 12.8 4.3

Scrambled Eggs 91 6.7 169 88.4 6.1

Spam 280 16 70 767 7

Steamed White Rice 199 0.4 0 6.6 4.3

Strawberry 20 0 0 0 0

Tomato 22 0.2 0 6.2 1.1

Waffles 200 9 20 500 4

White Bread 79 1 0 147.3 2.7

Whole Milk 148 7.9 24.4 104.9 7.7

1. Demonstrate adding food to data:

* Select menu item 1) in order to add new food data.
* The program will prompt you to input the food’s name, calories, grams Fat, cholesterol, sodium, and protein.

You can choose to Google a food and insert the food’s information or you can choose to input the information for grapes.

Please enter information about new food.

Name: Grapes

Calories: 62

Grams Fat: 0.3

Cholesterol: 0

Sodium: 2

Protein: 0.6

Press any key to continue . . .

* Select menu item 5) to print out food data sorted by name. The new item should be added onto the list.

-------------------------------------------------------------------

Food listed in Alphabetical Order

-------------------------------------------------------------------

Name Calories Grams Fat Cholesterol Sodium Protein

0 0 0 0 0

Adzuki Beans 295 0.2 0 18.4 17.3

Apple 130 0 0 0 1

Banana 110 0 0 0 1

Beef Pho 2936 48 280 3072 192

Bell Peppers 24 0.2 0 3.6 1

Brownies 151 4.82 88.45 18.12 1.36

Buckwheat Noodles 190 0.5 0 420 8

Cheddar 140 7 0 230 3

Chicken Pot Pie 484 29.1 875.15 42.71 13.04

Chocolate Milk 209 8.5 30 150 7.9

Coleslaw 213 8.5 7.09 326.06 1.42

Curry 230 11 0 1360 7

Fried Chicken 230 17 45 370 14

Grapes 62 0.3 0 2 0.6

Honey 1031 0 0 13.6 1

Honey Ham 60 2.2 28.35 580 9

Lettuce 15 0 0 10 1

Potato 163 0.2 0 12.8 4.3

Scrambled Eggs 91 6.7 169 88.4 6.1

Spam 280 16 70 767 7

Steamed White Rice 199 0.4 0 6.6 4.3

Strawberry 20 0 0 0 0

Tomato 22 0.2 0 6.2 1.1

Waffles 200 9 20 500 4

White Bread 79 1 0 147.3 2.7

Whole Milk 148 7.9 24.4 104.9 7.7

* You have the option of as many additional items onto the list. Also note that anything added onto the list is saved in the .txt file.
* You may open the .txt file to show the changes.

1. Demonstrate removing new food data:

* Select menu item 2) in order to remove previously added food data.
* The program will ask you to enter the name of the food you want to remove.
* Enter a food item that is not in the list to show that you cannot remove items not on the list.
* Select menu item 2) again. This time enter the name of the food item you have previously added. If you added grapes, write grapes in the prompt. The following should appear on the screen.

Name of food to remove: Grapes

Entry deleted (by Name). (Leaf)

* Select menu item 5) to print out food data sorted by name. The new item should be removed from the list. The following should appear if you added one item and removed that item.

-------------------------------------------------------------------

Food listed in Alphabetical Order

-------------------------------------------------------------------

Name Calories Grams Fat Cholesterol Sodium Protein

0 0 0 0 0

Adzuki Beans 295 0.2 0 18.4 17.3

Apple 130 0 0 0 1

Banana 110 0 0 0 1

Beef Pho 2936 48 280 3072 192

Bell Peppers 24 0.2 0 3.6 1

Brownies 151 4.82 88.45 18.12 1.36

Buckwheat Noodles 190 0.5 0 420 8

Cheddar 140 7 0 230 3

Chicken Pot Pie 484 29.1 875.15 42.71 13.04

Chocolate Milk 209 8.5 30 150 7.9

Coleslaw 213 8.5 7.09 326.06 1.42

Curry 230 11 0 1360 7

Fried Chicken 230 17 45 370 14

Honey 1031 0 0 13.6 1

Honey Ham 60 2.2 28.35 580 9

Lettuce 15 0 0 10 1

Potato 163 0.2 0 12.8 4.3

Scrambled Eggs 91 6.7 169 88.4 6.1

Spam 280 16 70 767 7

Steamed White Rice 199 0.4 0 6.6 4.3

Strawberry 20 0 0 0 0

Tomato 22 0.2 0 6.2 1.1

Waffles 200 9 20 500 4

White Bread 79 1 0 147.3 2.7

Whole Milk 148 7.9 24.4 104.9 7.7

* You may also choose to delete something that was initially on the .txt file. Note that anything delete from the list will also be deleted from the .txt file.
* You may open the .txt file to show the changes.

1. Demonstrate looking up nutritional information of food

* Select menu item 3) in order to look up the nutritional information of the food. You may look up any item that was initially on the .txt file or that was previously added.
* The program will ask you what food you would like to look up. Enter the name of a food such as Curry. The following should appear:

What food would you like to look up?: Curry

Curry

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Calories: 230

Grams Fat: 11

Cholesterol: 0

Sodium: 1360

Protein: 7

1. Demonstrate Print Indented Tree

* Select menu item 6) in order to print the indented tree. The following style of print should show up

Waffles

Banana

Adzuki Beans

Apple

Chocolate Milk

Cheddar

Buckwheat Noodles

Beef Pho

Bell Peppers

Brownies

Chicken Pot Pie

Honey Ham

Honey

Fried Chicken

Coleslaw

Curry

Lettuce

Tomato

Spam

Potato

Scrambled Eggs

Steamed White Rice

Strawberry

White Bread

Whole Milk

* You may bring the .txt file to help show how the tree is indented. Explain how every level of indentation represents one level of the tree.
* You may select menu item 1) to add a food item and demonstrate the changes in tree.
* You may select menu item 2) to remove an item in order to demonstrate how removing an item changes the tree.

1. Demonstrate Food Calculator

* Select menu item 8) in order to demonstrate the food calculator.
* The food calculator will ask for maximum calorie amount. This is used for comparison for the foods you choose and does not affect how many items you need to select.
* The food calculator will ask for the number of food items in your meal. Enter the number of food items you want.
* The food calculator will ask you for the name of the food item and then the amount of the food item you want. Enter a food item that is on the list of food items.
* The food calculators should give you the combined nutritional information for all food items selected and how many calories short or above your meal is compared to target calorie amount.
* Example:

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Food Calculator

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Enter a maximum calorie amount: 600

Enter the number of food items in your meal: 2

Enter the name of a food item (enter QUIT to exit): Waffles

Enter the amount of Waffles: 1

Enter the name of a food item (enter QUIT to exit): Tomato

Enter the amount of Tomato: 1

The total nutrition facts for your meal is:

Calories Fat Cholesterol Sodium Protein

222 9.2 20 506.2 5.1

You are 378 calories short of your maximum.

Possible items to add are:

1. Demonstrate the listing of the hash table and printing of the hash table statistics

* Select menu item 4) in order to list the data for the hash table sequence. The list should be in order based on the hash index of the item.
* If multiple items are located under a index number, that means there is collisions for that number in the hash table.
* Select menu item 7) in order to print out Hash Table Statistics. This should tell you the where collisions occur, and other associated statistics. You may compare the statistics with the hash table list to confirm the location of collisions.

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HashTable Statistics

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Collisions at:

Index: 1 Collisions: 1

Index: 3 Collisions: 1

Index: 5 Collisions: 1

Index: 13 Collisions: 1

Index: 24 Collisions: 1

Index: 25 Collisions: 3

Size of table is 31

There are currently 25 items.

Number of the occupied indexes: 17

Load factor: 54.8387%

Average amount of collisions: 0.176471

Number of indexes with no collisions: 11

Number of indexes with collisions: 6

Largest bucket size is 4