



MENU **C**ALCULATOR **M**ANUAL

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GENERAL INFORMATION

1.1 Program Overview

In this program, the users will add ingredients and dishes to a restaurant in order to ultimately determine prices for those ingredients and dishes in their restaurant. By identifying links between ingredients and the dishes using them in recipes, the program will be able to take an ingredient and determine an exact list of dishes using the ingredient. It will also be able to provide the exact quantity of the ingredient needed in each recipe. And finally, because the user will also input their menu prices, the program will produce information on profits and revenues. These statistics can be used on individual dishes as well as a list of dishes (like everything sold in the span of a day).

1.2 Tab Functionality Overview

In this section, I will outline the basic functionality associated with each of the five tabs contained in the program.

1.2.1 Ingredient Prices tab

In the “Ingredient Prices” tab, the user will be able to add basic ingredients and then enter the information needed to calculate their prices. Each ingredient needs a price, quantity, and unit type to determine its price per unit.

Ingredients can be either solids, liquids, or units (like bushels). Liquid units include mL, ounces, cup, gallons, and liters. Solids include grams, ounces, pounds, and kilos. And units just include the word “units” to represent anything. Once an ingredient’s type is established, it must remain that type in the recipes. For instance, a solid ingredient must also use a solid type of units in the dishes using it. However, if the user changes an ingredient’s type (i.e. from solid to liquid), the user will also need to change the ingredient’s type in its dishes.

At the bottom of the tab, there is a search bar and useful information on every ingredient (sorted in alphabetic order) in the restaurant. For instance, if a user searches “Error”, it will find every ingredient with a field missing needed to calculate its price. In addition, if there is no error, it will give you the exact price of the ingredient.

1.2.2 Dish Recipes tab

After inputting ingredient information, users can generate dishes with their ingredients. Even other dishes can be used in the dish recipes.

Dishes are either unsold dishes or sold dishes. Every unsold dish will be added to the “Unsold Component Dish” category, and sold dishes will be added to the “Entire Menu” category. While both unsold and sold dishes can be used in recipes, unsold dishes are unique because they don’t require menu prices. Instead, they need a unit so they essentially act as complicated ingredients. (Tomato sauce or pureed tomatoes is a common example of an unsold dish.) Accordingly, you will use them in other dishes’ recipes. They have a cost, but there will never been any profit or revenue information for them. On the other hand, the user can generate all profit information for sold dishes. They require a menu price though. Without that information, the sold dish will not be considered complete.

At the bottom of the tab, there is a search bar and useful information on every dish (sorted in alphabetic order and by sold versus unsold) in the restaurant. If you search “Error”, it will find every dish with a missing field needed to calculate its price. In addition, if there is no error, it will give you the exact menu price, cost, and cost-to-menu price ratio for the dish.

1.2.3 Category Management tab

In this particular tab, the user will be allowed to create and manage categories of both sold and unsold dishes in the restaurant. By categorizing dishes, it will be easier for the user to find dishes and analyze groups of dishes in the restaurant. An example of a category would be “Drinks”, “Pastas”, or “Salad Dressings”. (And though not seen in the tab, there is an “Entire Menu” category with every sold dish automatically added to it and also an “Unsold Component Dish” category with every unsold dish added to it. Both cannot be modified.)

At the bottom of the tab, there is a window serving a different purpose depending on whether a dish or category is being modified. If a dish is selected, then the window will show every category (except the “Entire Menu” category) containing the dish. And if a category is selected, then the bottom window will display every dish in the selected category.

1.2.4 Ingredient Usage tab

Like the name implies, the “Ingredient Usage” tab will enable the user to select an item (like a sold/unsold dish or an ingredient) and see the recipes using it.

If there is an error with the item, it will not display any information. However, if there are no errors, the window at the bottom will display both the sold and unsold the dishes using the item. Unsold dishes will be denoted by parentheses. Further down in the window, it will detail the cost and quantity of the item needed for each order of the sold dish using it.

1.2.5 Cost Results tab

This tab provides profit, revenue, and cost information for a collection of sold dishes. You essentially add dishes to the list and then it instantaneously updates the bottom window with the information on the collection.

In the bottom window, it starts by giving a total number of dishes and the profits from all the dishes in the list above. In addition, it gives some statistics including the average and median cost-to-price figures on the entire list. It then gives a list of every ingredient (in alphabetical order) used in the entire list and the total quantity and cost of that ingredient. Even further down in the same window, it breaks down the profits and ingredient usage by dish.

1.3 Additional Notes

Throughout the program, it is occasionally important to format inputs correctly. More specifically, when saving files, the user must only use numbers, letters, and spaces. The filename of the program can also have an optional “.txt” ending. Similarly, the filename for a saved report (on the Ingredient Usage and Cost Results tabs) can only have numbers, letters, and spaces with an optional “.doc” ending. Furthermore, every number entered in the program must not contain any commas. For instance, the number “two thousand” must be entered as “2000” and cannot be inputted as “2,000”. It also cannot be inputted as “2.000” (like the European convention) because in the program, a period represents a decimal place. So the number “2.000” will be recognized in the same way as the number “2” in the program.

MENU BAR

2.1 Main Menu

The Main Menu at the left-most point on the menu bar contains standard set of operations for any program. More specifically, there are buttons to open a program, save a program, undo and redo, as well as exit the program.

2.1.1 New

The “New” button functions exactly like expected. It first prompts the user to save the program if it has not been saved recently. If the user does not want to actually open a blank program, they can simply click the exit button on the top right corner of the save prompt. In that case, the program will then just return to its previous state. Otherwise, the user can click “Yes” or “No” to save (or alternatively not save) the program before opening a blank program. Once the blank program has opened, it will then notify the user.

2.1.2 Open

The “Open” button acts in a very similar to the “New” button in that it begins by prompting the user to save the program before opening a different one. If the user has not yet saved the current program and wants to save it, then the user will be able to type in a filename for the program. Otherwise, if the user had already saved the current program and wants to save it again before opening a new program, then it will just use the current program’s filename.

Following the save prompt, the user can open a program by clicking a valid “.txt” filename. If the file was not valid, then the user will get a prompt indicating that. Also, if there is a problem during the loading process, there will also be prompt saying that the contents of the selected file are not correct. Conversely, if the file was successfully loaded, then there will a prompt signifying that to the user.

2.1.3 Save

The “Save” button allows the user to either “Save as” or just execute a simple “Save”. In both cases, the saved filename must only be letters and spaces and contain an optional “.txt” extension at the end of the filename.

If the user opts to “Save as”, then the user will immediately be taken to a window to choose a new filename for the current restaurant. For “Save”, it is simpler. If the program had already been saved at least once in past before, then the file will automatically save using the old filename. Otherwise, in the case that the program had never been saved before, the “Save” button will simply act as though it is “Save as” and ask the user for a filename to save the program for the first time.

2.1.4 Undo/Redo

The “Undo” and “Redo” work similar to any other program. The “Undo” button takes the program back to previous state of program. In other words, if anything in the program is changed, “Undo” will revert the program to its condition before the change. The “Redo” button has the opposite effect. (For the user’s information, the “Undo” button can be done quickly by pressing Ctrl and Z at the same time; and similarly, the “Redo” button is Ctrl and Y).

If a user clicks “Undo” or “Redo” and then makes a change, the user can only no longer “Redo” anymore. More specifically, the user can only “Redo” if there have been no changes to the program since the last “Undo”. Finally, after each undo or redo, there will be prompt labeled “Undo” or “Redo” explaining the effect.

2.1.5 Exit

The “Exit” button (and the red “X” in the top right corner of the program) will start by asking the user to confirm that they want to exit to the program. It then prompts the user to save before leaving the program if it has not been saved recently. Like at other times in the program, when saving, the user should have saved before otherwise there will a window asking the user for their desired filename. If the user does not want to save and clicked “Exit” by mistake, then the user can just click the red “X” in the top right of the saving prompt. But if user clicks “Yes” or “No” in the saving prompt, the program will take the appropriate action and then terminate.

2.2 Edit

The Edit Menu in the middle of the menu bar contains a set of operations tailored specifically to the Menu Calculator program. For instance, in the Edit Menu, a user can either add new items and categories or make copies of items and categories from ones already in the restaurant. Alternatively, the user can remove items and categories. Lastly, there is the option of changing the attributes of items and categories including their names.

2.2.1 Add Item/Category

The “Add Item/Category” button enables the user to add an ingredient, dish, or category to the restaurant from any tab. If adding an ingredient, the user will simply be prompted for the name of the ingredient. The user can then go to the “Ingredient Prices” tab to fill out the information for the ingredient. For a dish, the process is slightly different; user must first select whether they would like to add to a sold dish or unsold dish. Once they decided, they can simply input the name of the dish in the prompt, and it will be added to the restaurant. The user must later go to the “Dish Recipes” tab to enter the recipe (and

possibly price) information. Finally, categories only require a name from the user and then can be modify in the “Categories Management” tab. In general, the user will not be able to add an item (i.e. ingredient or dish) with an already used name, and similarly, there cannot be two categories with the same name.

2.2.2 Creating Copy

The user can create an exact replica (with a different name) of ingredients, dishes, and categories using the “Create Copy” button. In the case of ingredients, the new ingredient will have the same cost, units, and quantity. By copying dishes, the user will create a dish with the exact same recipe. In addition, the copied dish will be contained in all the same categories as the original dish. Lastly, copying a category works exactly like expected. The new category will feature all the same dishes as the original category. However, it is important to note that after any ingredient, dish, or category is copied, changes to the original item/category will not be reflected in the new item/category.

2.1.3 Remove Item/Category

The “Remove Item/Category” button is extremely straightforward in that it allows the user to remove anything on the menu. You simply have to select the name of ingredient, dish, or category to remove and then it will be taken out of the menu. Users should be mindful though, if an ingredient or dish is used in any recipe, then it cannot be removed from the menu. (The user can however either manual remove the ingredient from all the dishes using it and then delete the ingredient. Or alternatively, to replace an ingredient with a different one throughout the restaurant, the user can go to the ingredient in the “Ingredient Prices” tab and modify its information and then also change in the name of the ingredient using the Edit Menu.)

2.2.4 Changing Name

The user can change the name of any ingredient, dish, and category. The only requirement is that the new item name cannot already be used by another ingredient/dish or, if a category name was changed, then there cannot be an existing category with the same name. After the user changes a name, then it will update throughout the program.

2.2.5 Changing Menu Price of a Dish

The user can change the price of any sold dish during the use of any tab using this button. First, users must select a sold dish. At that point, the user will then be prompted to enter the new desired price of the dish. (The dish price must be greater than zero.) Once the user inputs the price and clicks user clicks “OK”, the dish’s price will be changed throughout the program.

As a note, the button also works to set a price for the first time if the user has not yet set a price. Alternatively, users can make the price be considered unset by leaving the price blank and clicking “OK” in the prompt requesting the new price. (The user may want to do that in a situation where a dish’s price needs to be changed, but the exact price is not yet known and will be entered at some time in the future.)

2.2.6 Change Dish Type

There may an instance that a user would like to change the type of a dish. Either they mistakenly created a sold or unsold dish, or they decided later on that an unsold dish should be sold and maybe vise-versa. In that scenario, the user can simply select the dish that they would like to change to a different type.

If a sold dish is converted to an unsold dish, the dish will then need to set the units associated with it. Also, if the dish was used in some recipe, the units for that dish in the recipes containing it will be reset. In other words, because the units for sold dishes are always “Orders” and an unsold dish cannot take on the unit of an “Order”, you need to changes the units.

In fact, even if an unsold dish is converted to a sold dish, the units for the dish also will be reset in recipes using the dish. Because an unsold dish has units like pounds or liters, it cannot be automatically converted to the units of a sold dish – “Orders”. In addition, when converting an unsold dish to a sold dish, the dish will then require the user to set a price for it.

In general, by changing the dish type, the user will immediately introduce a number of errors into the program. At the very least, the recipes using the modified dish will need the user to set the units for that dish in the recipes. Sold dishes and unsold dishes are inherently different (except for the fact that they both have recipes). But in general, by using the window at the bottom of the “Dish Recipes” tab and searching for the word “Error”, it will help tremendously in locating and resolving errors.

2.2.7 Ingredient Info

Throughout the program and in particular when creating recipes, it is useful to have information for pricing and errors of the ingredients. For that reason, there is a button providing the user with a brief memo on any ingredient’s price and information (including errors). The prompt for ingredient information is unique too because you can work on the program without exiting the prompt.

2.3 Help

The Help Menu in the program is a section for users to get help in case of confusion or issues. For example, there is an option to add messages to the program to aid in clarifying once an update has been completed. There is also a tool to facilitate users in creating recipes and building their restaurants.

2.3.1 Calculate Wastage

Very simply, this button acts as a mechanism to calculate the amount of wastage (in terms of a percentage) needed to go from a starting ingredient/dish to its final product. You start by entering the initial weight and units and then input the final weight and units. (No piece of information may be missing though; otherwise it will not be possible to get a waste percent.) Once everything is entered

correctly, the wastage calculator will show a prompt with starting/ending weights in addition to a wastage percentage accurate to 3 decimal places.

2.3.2 Turn On/Off Notifications From Update Buttons

This button allows the user to turn on or off feedback following an update to either an ingredient, recipe, or category. More specifically, on all the tabs with the word “Edit” at the end, it is possible to change the details of items in the restaurants. If anything is changed, there will be a pop-up explaining that change to the restaurant.

For example, assuming the notifications are turned on, if a user clicks the “Update” button in the “Ingredient Prices” tab, there will be feedback. Similarly, in the “Dish Recipes” tab, clicking “Update” to modify the recipe or the “Confirm” button to change the price of a sold dish or the units of an unsold dish will also trigger the pop-up. And finally, by using the buttons to add or remove dishes from a category in the “Category Management” tab, it will also cause a notification. If however there were no changes to an item/category and an update button was clicked, then user would not get a pop-up because nothing in the restaurant has actually been modified.

2.3.3 Get Support

This button is very straight-forward and requires almost no explanation. It initiates a prompt including the name, phone number, and email address of the designer of the program in the event that there is a question not covered in the manual or an error in the program. If there are any questions about the program, the user can contact the creator using the email address provided.

INSTRUCTIONS FOR USING TABS

3.1 Ingredient Prices tab

The Ingredient Prices tab only contains a couple buttons and, therefore, it is fairly intuitive to use in adding ingredients to the restaurant. To start, the user can add ingredients using the large button labeled “Add Ingredient to Restaurant” in the middle of the tab. Once an ingredient is added, it will appear in the alphabetically sorted list above the “Add Ingredient to Restaurant” button and also in the bottom window on the tab. Then, the user can choose an ingredient from that list and one of the three circular buttons to replace the ingredient next to the circular button with the ingredient from the list by clicking the “Replace Button”.

After the user has decided on the ingredients to display in the middle of the tab, the user can modify the information for the ingredients. To change ingredient information, the user should simply make the changes and then must click “Update All Recipe Information for the Dishes Above” button. (Users should be aware that prices for ingredients should be above 0 LL). For an ingredient to be complete, it must contain a price, quantity, and units.

To verify the updates and missing information, there is a window at the bottom of the screen. To find errors (like missing information for ingredients), the user can search “Error” in the search bar above the window. If there is an “Error” for a particular ingredient, the program will not be able to give costing information on any dish using the incomplete ingredient. In addition, it may be useful to know about unused ingredients. The user can search “Warning” to find unused ingredients. Technically, if an ingredient is unused though, the program will still work fine.

3.2 Dish Recipes tab

As the name insinuates, the Dish Recipes tab is the portion of the program used to create recipes. First, the user should add either a sold or unsold dish using the “Add Sold Dish to Menu” or “Add Unsold Dish to the Menu” buttons respectively. Once there is at least one dish added, the user can select a category of dishes by clicking on a category from the top-most list and then clicking refresh. (All sold dishes are found in the “Entire Menu” category, and unsold dishes are found in the “Unsold Component Dish” category.) By doing that, the user has updated the list of dishes in the “Select Dish:” line. In that line, users can pick a dish to modify by choosing the dish and then clicking “Replace”.

Following the selection of a dish, the user must fill out a price (above 0 LL) for a sold dish or the units for an unsold dish. Without doing that, the user can still add ingredients to the recipe, but the dish will not be complete and will have an error. With that said, the user also has the option of adding ingredients and other dishes to the recipe. If the “Add an Item to the Recipe” button is clicked, there will be a list of ingredients/dishes in a prompt appearing on the screen. (Note that certain dishes will not appear. For instance, if Tomato Sauce is used in the Pizza recipe, you cannot add Pizza to the Tomato Sauce recipe.) Conversely, you can remove items from the recipe by checking them and then clicking the “Remove Checked Items from the Recipe” button.

Assuming the items are added to the recipe, the user can then start updating the information in the recipe. Each item has four required fields. The first and second required fields are the quantity (which is required to be above zero) and units of the amount of usable item. (50 grams of chicken would be an example where 50 represents the quantity of actual processed chicken needed in the recipe and grams are the unit.) Then the user should then input the number of orders (or alternatively units for unsold dishes) created by the quantity and units fields (i.e. the 50 grams of chicken). If the entire recipe makes a set number of orders (or units for unsold dishes) the user can then just input it in the field above the recipe saying “Set number of ... by every item in the recipe” and it will set the number of orders/unit field for every item. (The number of orders or units of the dish made must be above zero.) Lastly, there is a wastage percentage required. It must be between 0 and 99.99, and indicates the percentage wasted in preparing a particular item. Continuing our last example, if 50 grams of usable chicken are needed and the amount of whole chicken needed to make the 50 grams of chicken with bones and everything was originally 200 grams, then there is $(200-50)/200$ (or 75 percent) wasted.

Finally, there is also an information window at the bottom with a search bar. The top of the window will contain the currently selected dish. However, the user can search any dish name. Also, like in other tabs, searching “Error” will find any incorrect dishes. These dishes can either be missing information in their recipe or their ingredients/dishes in their recipe can have an error. In addition, unsold dishes will show warning if they are not used in any other dishes. To find the unsold dishes without uses, the user can simply search “Warning”. If there is no warning or error for a particular dish, there will be “Success” message displaying the dish’s cost (and price for sold dishes).

3.3 Category Management tab

The Category Management tab is designed to add and then modify categories in the restaurant. First, to add a category, it is necessary to click on either the “Add a Category of Sold Dishes to the Restaurant” or “Add a Category of Unsold Dishes to the Restaurant” buttons. Then once a name for a category has been entered, the category will be officially be added; the user can then start modifying their categories by clicking either a dish or category in one of the two lists on the top of the page. To select either one, the user must click the dish or category and then click the “Replace” button on that same line.

If a dish is selected, the searchable window at the bottom will display every category containing that dish. The user can then add the dish to other available categories using the “Add Dish to Category” button. Or instead, there is the option to remove the dish from categories containing it using the “Remove Dish from Category” button.

In a similar fashion, if a category is selected, the searchable window at the bottom will display every dish contained in that category. The user can then add a dish to the categories using the “Add Dish to Category” button. Or instead, users can remove dishes from the list in the window below using the “Remove Dish from the list Category” button.

3.4 Ingredient Usage tab

The Ingredient Usage tab is designed for the principle purpose of getting a list of dishes using a chosen ingredient or dish. For that reason, the user should select any item in the restaurant (i.e. Ingredients, Sold Dishes, or Unsold Dishes). To do that, the user should look at the list labeled “Select Type of Item” and then click “Refresh” to update the list below enumerating the actual items. In the second list, the items are labeled either “Used” (if there is at least one sold dish containing the item in its recipe) or “Not Used”. Once the users identify an item from the second list, they can click it and hit the “Replace” button to update the window underneath.

In the window at the bottom of the screen, there is message describing the status of the item in relation to its usage information. If there is an error with the chosen item, then the window will give a clue about finding it. If there is no error and the dish/ingredient is used in at least one other dish, there will be a list of dishes using the selected item underneath. In that list, unsold dishes are marked with parenthesis. Further down, for each sold dish using the item, there are details including quantity needed and price of the item per order of the dish. If the user would to see quantity in the units used in inventory (i.e. units used to input ingredient and unsold dish information), there is a button on the right side above the window to change units between the recipe units for the dish and the inventory units for ingredient/dish. And finally, if the user wants to save the list, they can do so by click the “Save Information as Document” button on the very bottom of the tab.

3.5 Cost Results tab

The Cost Result Tab requires the user to make a list of items to then examine a thorough analysis of the items. To begin, the user should first select a category to pick some sold dishes to add to the analysis list. To do that, users should choose category and then click the “Refresh” button. Then the user can either add or remove (one or more) dishes using the “Add Dish to List” or “Remove Dish to List” buttons respectively. The user will then be prompted to specify exactly how many dishes to add or remove. In addition, to add an entire category, the user can click “Add Entire Category to List” button and will be prompted to state the number of each dish in the category to add to the list. If the user wants an entirely new list, it is also possible to clear the list by clicking “Clear Entire List” button. If there is any error in any of the dishes on the list, an analysis in the bottom window below will be not be possible.

Once the list is set, the user can save the list by clicking “Save List for Future Analysis”. In this case, users must abide by the same rules as saving an entire program. (In other words, the filename must not have anything but numbers, letters, and spaces and can only end in nothing or “.txt”.) The user can also quickly upload a saved list by clicking the “Import List for Analysis”. It will clear the current list and replace it with the selected list.

Looking further down at the bottom searchable window, the user gets a complete statistical analysis of the dishes in the list above (without having to click anything). Assuming there are no errors in the dishes, the analysis will start by giving an overview of the total number of dishes in the list and total

profit, revenue, and cost of all the dishes combined. It also provides an overall, average, and median Cost-to-Revenue ratio. It then lists every ingredient and their costs/quantity needed to make the entire list above. Further down, it breaks down the list by dish and gives metrics (like a rating where higher is better) to compare the profitability of the distinct dishes. It also includes dish specific information on ingredients. And because the lists of ingredients may be more useful in the inventory units or recipes units depending on the situation, the user can switch between them with the “Display in Inventory/Dish Units” button. There is also a button to distinguish between “Display in Only Ingredients” and “Display with Dishes” so that the user can either get a complete breakdown of displaying dishes’ recipes with only purchased ingredients or have recipe information include dishes and unsold dishes in the recipes.