Program Requirements Document

CIS 022 Wednesday, February 7th, 2024

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| **Application/ Program name:** | L1-2 |
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| **Purpose or problem definition:** |
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| This program takes the user-provided original price of an item and then adds a user-provided percentage of markup onto the original price. It then calculates the cost of sales tax on the marked-up item based on a user-supplied sales tax rate. Finally, the program determines the final price of the item by calculating the sum of the price of the marked up and the previously determined cost of sales tax. The program then displays the final price breakdown of the item by first displaying its original price, followed by the percentage that the item’s price has been marked up, the item price before sales tax has been added, followed by the sales tax rate as supplied by the user, the cost of sales tax as previously calculated, and finally the final price of the item. |

| **Program Procedures:** |
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| 1. Display information about the source code’s author, the name of the program, and the filename of its compiled .exe form. 2. Display prompt – Ask the user to enter the original price of an item. 3. Display prompt – Ask the user to enter the desired percentage of markup. 4. Display prompt – Ask the user to enter the sales tax rate. 5. Calculate the marked-up price of the item with the following formula: **marked-up price = orig. price + (orig price \* (markup percentage / 100))** 6. Calculate the cost of sales tax with the following formula: **cost of sales tax = marked-up price \* (tax rate / 100)** 7. Calculate the final price of the item by adding the cost of sales tax to the marked-up price. 8. Display the final price breakdown to the user that includes the original price, the markup percentage of the price, the marked-up price before sales tax has been added, the sales tax rate, the cost of sales tax, and the final cost of the item. 9. Display prompt asking the user to press a key to exit the program. 10. Exit program. |

| **Algorithm/Processing/Conditions:** |
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| **Inputs:** |
| 1. Original price of an item 2. Percentage of desired price markup 3. The sales tax rate |
| **Processes:** |
| 1. Calculate the selling price of the item after the markup has been added to the original item price. 2. Calculate the cost of sales tax from the selling price. 3. Calculate the final price of the item with price markup and sales tax added. |
| **Outputs:** |
| 1. Display the full final price breakdown of an item based on the information entered. |
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| **Notes & Restriction:** |
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| It is assumed that the user will only enter numerical values for every input.  It is assumed that the user will always enter input when prompted. |

| **Comments:** |
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| There is no error handling in this program.  If the user enters anything other than numbers for any of the input prompts, the program will behave erratically and/or unexpectedly exit (crash). |