Program Requirements Document

CIS 022 Thursday, February 8th, 2024

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| **Application/ Program name:** | L1-3 |
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| **Purpose or problem definition:** |
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| The purpose of this program is to read the current salary and salary increase percentage for a number of employees from a file, determine each employee's new salary based on the input data, and then writes the resulting new salary to an output file. The program also informs the user of the combined total of the employees' current salaries, as well as the combined totals of their new salaries. |

| **Program Procedures:** |
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| 1. Input file “L1-3DATA.dat” is opened in input mode, and output file “L1-3Output.dat” is opened in output mode. 2. The first three lines of employee information are read by the program. Each line contains the employee’s last name, first name, their current salary, and the percentage that their salary will be increased, separated by spaces. 3. Calculate the new salary for each processed employee using the following formula:   *new salary = current salary + (current salary \* (salary increase percentage / 100))*   1. For every line processed from the input file, the program writes each employee’s first name, last name, and their previously calculated new salary (with a precision of 2 decimal places) to the output file “L1-3Output.dat”, each piece of information separated by a space. 2. The program will then display the combined total of the current salaries of all processed employees before salary increases have been applied. 3. The program will then display the combined total of the updated salaries of all processed employees after salary increases have been applied. 4. The program will then close both the input file and the output file. 5. The program will prompt the user to press Enter to exit the program, 6. Exit the program when Enter is pressed by the user. |

| **Algorithm/Processing/Conditions:** |
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| **Inputs:** |
| 1. Data file "L1-3DATA.dat" is opened which contains a number of employees’ first and last names, their current salaries, and the percentages that each employee's salary is to be increased. |
| **Processes:** |
| 1. Read the last name, first name, current salary, and salary increase percentage data from lines 1-3 from the input file. 2. Calculate the updated salary for each line of data read using the following formula: *new salary = current salary + (current salary \* (salary increase percentage / 100))* |
| **Outputs:** |
| 1. Data is written to output file "L1-3Output.dat" containing the first and last names, and the new salary of every employee (with a precision of 2 decimal places) that was processed from the input file. 2. Display the total of the combined current salaries of the processed employees. 3. Display the updated total of the combined updated salaries for every processed employee after salary increases have been calculated and applied. |
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| **Notes & Restriction:** |
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| The input file “L1-3DATA.dat” must contain at least three lines. Each line must have a last name, first name, current salary, and percentage that their salary will be increased, and each field must be separated by a space.  Here is L1-3Data.dat sample contents:  **Miller Andrew 65789.87 5**  **Green Sheila 75892.56 6**  **Sethi Amit 74900.50 6.1**  **Cheesy Gorgonzola 5432.10 0.0**  It is assumed that the user will place the input file in the same location on the operating system as the program before executing the program.  This program will place the L1-3Output.dat output file in the same location in the operating system as the program when the program has finished executing. |

| **Comments:** |
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| There is no error handling in this program.  If the user doesn’t supply the correct input file in the correct format with at least three lines of data, the program will behave erratically or crash. |