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**Financial Literacy Simulator**

This program has 17 parameters whose values can be varied to affect the simulation output. The values for the input parameters are representative of a person’s financial information. Input parameters should be written into a file called “input.txt”. Each line in the input file should contain one value, and a value must be specified for each of the 17 parameters. There should be no characters, except decimals, in the input file, only numbers. The “input.txt” file should be in the same folder as the .c file which contains the source code. A sample input file is provided with the source code. An explanation of each of the parameters is provided below, as well as their order (for example, the 10th line of the input file should have the person’s yearly salary, and the 16th line should have their initial savings account balance).

**Input file format:**

1. simulation length in years

2. starting credit card and student loan debt

3. monthly payment percentage for credit card and student loan debt

4. monthly additional payment amount on credit card debt

5. price of house the person wants to purchase

6. percentage down payment the person will make on the house

7. yearly interest rate on mortgage loan

8. yearly interest paid to person in their savings account

9. monthly cost of renting an apartment

10. person's yearly salary

11. number of years person will take to pay of their mortgage

12. percentage of their income the person puts into their savings account each year

13. percentage of their income the person puts into their checking account each year

14. At the end of each year, the person's wealth will be divided by this number to account for expenses.

15. Yearly interest rate on credit card and student loan debt.

16. Initial savings account balance

17. Initial checking account balance

**Known Extensions and Limitations:**

Due to static array memory allocation, running the program for more than 80 years is not recommended and may return erroneous output data for the simulated person’s wealth.

Running the program with extremely large values for monetary arguments will likely cause the program to crash or return erroneous output data. This is because the double data type used in the program can only hold values up to a certain size. As a general rule, none of the values passed as arguments to the program, except the house price, should exceed 100,000.

All percentage values passed to the program as arguments should be less than one. For example, an interest rate of 8% should be written into the input file as 0.08.

Specifying the “monthly additional payment” argument as 0 will likely cause the program to output erroneous data because of potential infinite looping in the source code.

**How to Run the Program:**

In order to run the program, create a file called “input.txt”, and create a file called “output.txt”. Write 17 numeric values into the input file, each on a separate line. Then, run the program. The values for a person’s wealth, as well as the number of years they were in debt and the total amount of debt they payed will be written into the output file.