**Milestone 3 Narrative**

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My investment calculator artifact came from the first class that I had with C++. I chose this artifact because financial math interests me heavily and because this program is heavily reliant on algorithms to calculate and print information in a table for the user. For this enhancement, I doubled the scope of the program to include a debt calculator that prints the length of time in both months and simplified to years and months, monthly interest, monthly payments, amount remaining at the end of each month, total interest paid, and total amount paid for an input debt taking into account whether the user plans on making monthly payments in excess of a minimum payment and that minimum payments are often percentage based and that different companies may use different percentages to calculate the minimum payments. I also completely rebuilt the main() function to accommodate these changes as well as making aesthetic, security, and user-friendliness improvements. For this milestone I believe that I made progress in, if not met the standards for three of the course outcomes:

* Develop a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources.
* Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution, while managing the trade-offs involved in design choices (data structures and algorithms).
* Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals (software engineering/design/database)

My enhanced design implements a new algorithm to calculate the debt information as well as security improvements over vulnerabilities that previously existed and does so in a more complex ways that deliver value to the user.