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CS 31

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a)

There were a few problems that I had to overcome in completing this project. At the very beginning, I was unable to figure out how to use different functions in order to perform the calculations for how much the total fine would be. After thinking about it for a while, I thought to use doubles and “if” statements in order to carry out the mathematical operations.

In addition, I also faced difficulty in the final statement for the suggested fine. It took me a long time to figure out how to change the code so that the program would display as “$\_\_.\_ thousand” instead of as just the monetary value “$\_\_\_\_”. I remedied this by adding a “fine = fine / 1000” at the end of the program. This corrected the issue so the value would display as “$49.9 thousand” instead of “$49900”.

b)

List of test data

Possible errors that might occur

* No name is entered for the defendant's name - Provides an error message and stops the program
* Amount paid is a negative number - Provides an error message and stops the program
* An input other than “y” or “n” is provided - Provides an error message and stops the program

I tested all the values to make sure they provided the right amount (in thousands of dollars) to check if the message displayed at the end of the program.

Tested input values (both “y” or “n” as responses for the athlete question)

* Amount paid was $0 - used to test the base fine
* Amount paid was between $0 and $40,000 - used to test the first condition of the formula
* Amount paid is exactly $40,000 - also used to test the first condition of the formula
* Amount paid is between $40,000 and $250,000 - used to test the second condition of the formula
* Amount paid is exactly $250,000 - also used to test the second condition of the formula
* Amount paid is over $250,000 - used to test the final condition of the formula
* Amount paid involves a decimal, such as the value 56.25698 - used to ensure there is only one digit after the decimal