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Report 2

During this project, I did not face too many challenges. I have coded in MATLAB before, so I am very familiar with the “for,” “if,” “else,” “else if,” and logic commands. The most challenging part of this project was figuring out that I needed to use getline(cin, month) instead of just doing cin >> month. When I just used cin >> month, my program produced some strange results. For example, if I input “January Apple,” it appears as though “January” was used as the value stored in the “month” variable, while “Apple” became the value stored in the next variable that the program asked for. However, this was solved using the getline command, as the entire input would be stored as a string in the month variable. Another challenge of this project included figuring out how to check if an input was an integer and produce an error message based on that result. After some research, I utilized the “cin.fail()” command. The command “cin.fail()” returns non-zero (true) if the previous “cin” command failed, such as if somebody typed "a" which was supposed to be stored into a variable with an “int” data type.

Here is a list of the test data that could be used to thoroughly test my program:

Month value is not "January", "February", "March", "April", "May", "June", "July", "August", "September", "October", "November" or "December": (Jan uary, 1, 2021)

Month value is not "January", "February", "March", "April", "May", "June", "July", "August", "September", "October", "November" or "December": (january, 1, 2021)

Month value is not "January", "February", "March", "April", "May", "June", "July", "August", "September", "October", "November" or "December": (1, 1, 2021)

Day is less than 1: (January, -44, 2021)

Day is greater than 31: (January, 50, 2021)

Day is not an integer: (January, first, 2021)

Year is less than 1: (January, 1, -5)

Year is greater than 3000: (January, 1, 3050)

Year is not an integer: (January, 1, two thousand)

Year is divisible by 100 but not 400, and month is January: (January, 1, 200)

Year is divisible by 100 but not 400, and month is February: (February, 1, 200)

Year is divisible by 100 but not 400, and month isn’t January or February: (February, 1, 200)

Year is a leap year, is divisible by 400, and the month is January: (January, 1, 400)

Year is a leap year, is divisible by 400, and the month is February: (February, 1, 400)

Year is a leap year, is divisible by 400, and the month isn’t January or February: (March, 1, 400)

Year is a leap year, is divisible by 4, and the month is January: (January, 1, 2020)

Year is a leap year, is divisible by 4, and the month is February: (February, 1, 2020)

Year is a leap year, is divisible by 4, and the month isn’t January or February: (March, 1, 2020)

The month is January: (January, 1, 1043)

The month is February: (February, 22, 2033)

The month is March: (March, 9, 1455)

The month is April: (April, 22, 2000)

The month is May: (May, 20, 2020)

The month is June: (June, 11, 2871)

The month is July: (July, 19, 1627)

The month is August: (August, 3, 5)

The month is September: (September, 14, 1023)

The month is October: (October, 31, 1995)

The month is November: (November, 6, 33)

The month is December: (December, 21, 2795)