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% Trevor Swan
% ENGR 130 Homework 6
% October 3, 2023
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Question 3 - Algorithm

I will assume the user is a perfectly capable maintenance engineer that understands the different protocols that are to be followed depending on cabin and bulkhead pressure readings. I will also assume that the user has full access to a data file that contains bulkhead and cabin pressures stored in a list format. I will also assume that the cabin data has one more term than the bulkhead data

1. Bring the data regarding the bulkhead and cabin pressures into an accessible space
2. Start by analyzing the bulkhead pressure list
3. Analyze the next unanalyzed term in the bulkhead list. Call this term the current bulkhead pressure
4. Next analyze the cabin pressure list
5. Considering the data points are all two seconds apart, the rate of change for the given data should be one-half of the first term B minus term A
6. Assign the first term in the cabin pressure list term A and assign term B the succeeding value of term A
7. Calculate the rate of change using the information in step 5. Call this value the current cabin rate of change
8. If the current bulkhead pressure is less than 60 and the absolute value of the current cabin rate of change is greater than 5, add one to a counter called total warnings
9. Repeat steps 2-8 for as many terms are in the bulkhead pressure list
10. If the total warnings value is equal to 0, tell the user there is no action required
11. If the total warnings value is between 1 and 20, tell the user to initiate the “potential risk” protocol
12. If the total warnings value is 21 or greater, tell the user to initiate the “probable risk” protocol