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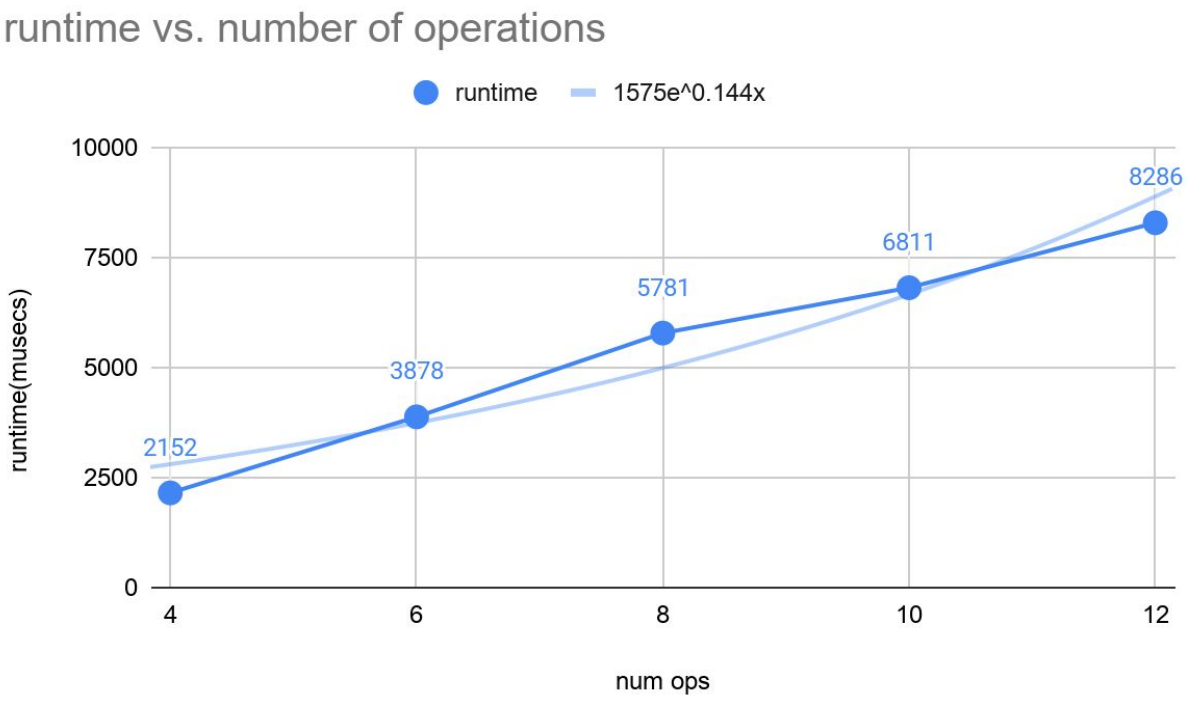
Machine Problem 1 Analysis

As you increase *a* and *b* you increase the runtime of the memory allocator. The relationship is exponential but we are working with such a small data set it is not clear. The data below is using *a=1* and *b=1,2,3,4,5*.



Unfortunately, I was unable to get my coalesce function to work correctly which causes memory checking errors for any *a* besides 1 and any *b* above 5, and sometimes 5 does not work. Outside of this, a modification I would make to improve performance would be rewriting my F* function

to run more efficiently instead of a massive while loop when allocating a lot of memory. This would improve performance by reducing the number of loops in the program and returning the F* number quicker. Another bottleneck would be in my constructor for the allocator. It uses a while loop to determine the total size being allocated and really it should be rewritten to function without loops.