Initial request (requested 3/12/2020, completed 4/20/2020):

1. Modify fast resonance scanner program to sweep multiple times (aka multiple cycles).
    a. Display average of previous sweeps on same plot as original data.
    b. Save all data from all cycles
    c. Save average of all cycles
    d. Save settings used in lock in amplifier on in a file
    e. Add X, Y readout in addition to R, Phase readout
2. Add ability to subtract background data from current cycle and scale new data to the background
    a. Background data is any data from a previous run
    b. Formula for scaling: $S = (N - B) \times \frac{M}{B}$
        i. S = scaled data for frequency f
        ii. N = new data from current run at frequency f
        iii. B = background data point at frequency f
        iv. M = absolute maximum of background data

Additional Requests and work since 4/20/2020:

#	Task	Date Requested	Status
3	Added feature to require user to set attenuation to use in cycles if no background is used	5/14/2020	Completed 6/11/2020
4	Added automatic setting of attenuator based on background settings if background is used	5/14/2020	Completed 6/11/2020
5	Add ability to log raw data in addition to scaled data to fsNMR program	5/14/2020	Completed 6/11/2020
6	Change program to log data at completion of each cycle rather than at end of program	5/14/2020	Completed 6/11/2020
7	Add delay between cycles	5/14/2020	Completed 6/11/2020
8	Add ability to manually scale y-axis on all plots	5/14/2020	Completed 6/11/2020
9	Implement cryogenic sensor logging into fsNMR program	5/14/2020	In progress
10	Remove background scaling from phase	6/11/2020	Completed 6/11/2020
11	Develop new program using Zurich lock-in amplifier	6/11/2020	Not started, waiting for fsNMR program to be finalized
12	Develop data review program	7/30/2020	Completed 8/5/2020
13	Debug plot coloring and raw data logging	7/30/2020	Completed 8/5/2020
14	Debug Zurich lock-in amplifier communication	8/6/2020	In progress
15	Debug NMR rack serial communication errors	8/10/2020	Completed 8/10/2020
16	Change fsNMR program scaling/acquisition method for X and Y	8/12/2020	Not started, waiting for clarification on equations