BME-301 Lab Assignment

Data acquisition using MATLAB

1. Start MATLAB
2. Open the Analog Input Recorder App using one of two ways:
    a. MATLAB® Toolstrip: On the **Apps** tab, under **Test and Measurement**, click the app.
    b. MATLAB command prompt: Enter **analogInputRecorder**.
3. Choose your NI instrument from the device list if it is not already chosen
4. Keep the default values at it is and hit the "**Record**" button. This will capture a 1 second of data and send it to the Workspace.
5. Examine the signal by plotting it and zooming in. Is there any 60 Hz noise present? If there is a periodic signal present, verify that it is 60 Hz by calculating its period.
6. Using the Signal Generator, generate a 200 Hz sinusoidal signal with a peak-to-peak amplitude of 2V, and feed it to ai0 channel of your NI DAQ device.
7. Make sure your signal appears on the "**Preview**" screen. (You can adjust the Y-axis scaling)
8. Decrease your sampling rate and see the effect on the recorded signal. Start from 1000 scans/sec and decrease by 200 scans/sec down to 200 scans/sec.
9. You will see that the acquired signal will be distorted. Why?
10. Clean up your station.