1. Prepare data: fft
   1. Read data, cut data into 2 (two 1.5-second intervals)
   2. Perform fft on the entirety of the 4 hydrophone's data --> outputs four phase graphs and four magnitude graphs
2. Estimate where the ping is based on magnitude, create a window that focuses on the ping
   1. Merge the four magnitude graphs together by adding the lists together to find the start of the ping (the highest peak of the combined magnitude graph)
   2. Calculate the index where the ping starts (there is only noise before the ping)
   3. Treat each fft as an index (20 fft spans 0.004 seconds, which is the length of the ping)
      1. The start of the window is the max magnitude’s index
      2. The end of the window is the end of the 0.004s ping, which is the starting index + 20
3. Find most precise phase difference between hydrophones based on the magnitude's window and the variance of the data
   1. Make phase arrays from 1.5-second intervals using fft
   2. Subtract one array of phase data from another for a rough phase difference
   3. Correct the phase data in the window determined by the magnitude (has the same x-axis fft indices)
   4. Plot the variance of the phase difference data
   5. Create even finer window starting from where the variance is at its minimum, end 4 ffts later (min variance index + 4)
   6. Find average of the phase differences of the window where the variance is the minimum (spans ~4 fft indices)
   7. Based on distances between hydrophones (path difference) and the phase differences, use phase difference equation to calculate distance from source to hydrophone (get coordinates)
4. Check accuracy of the location using 2-norm from simulation: pinger location estimates are given
   1. Find path difference using norms (location of pinger is simulated)
   2. Calculate phase difference between hydrophones
5. Filter out bad estimates