Ay190 – Worksheet 06
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1 The Discrete Fourier Transform

While the discrete fourier transform I coded works exactly similarly to NumPy's FFT (see Fig 1), it is abundantly clear that my efficiency sucks (see Fig 2). Honestly, I didn't spend any time trying to outperform NumPy's FFT. If someone in the class does, though, I'll import their code from now on.

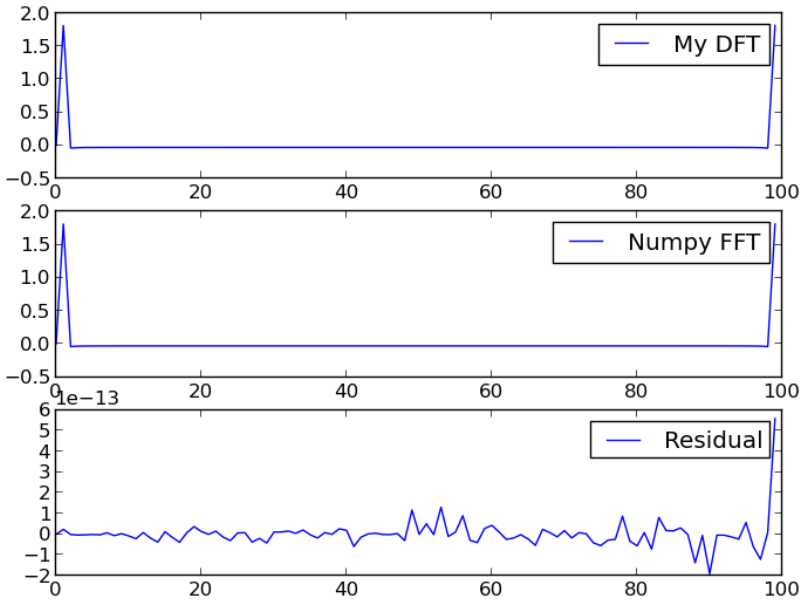

Figure 1: Output of my DFT method compared to that of NumPy's FFT

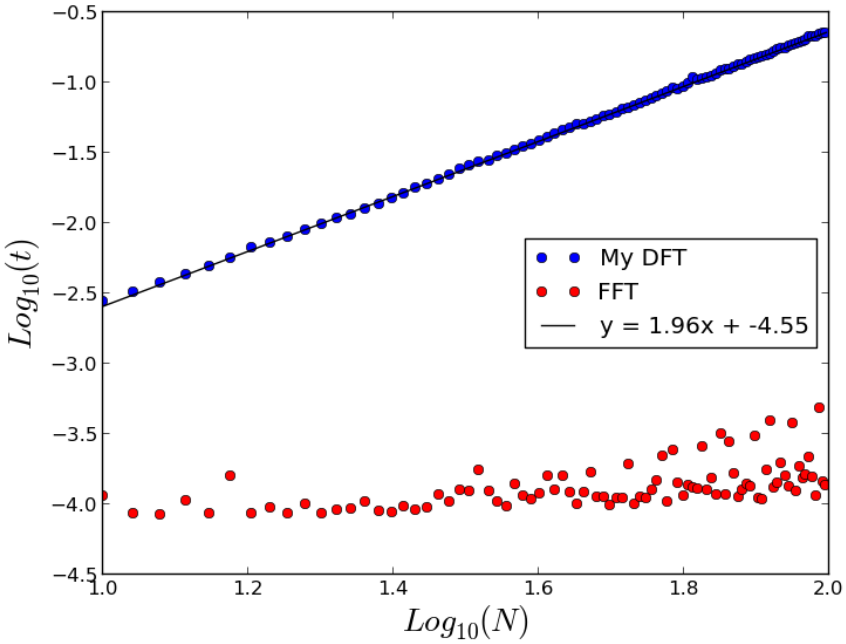

Figure 2: The time dependence (i.e. complexity) of my DFT algorithm compared to NumPy's FFT algorithm. The data is logged to clearly show the N^2 power law, as indicated by the linear fit with a slope of 2.