Ay190 – Worksheet 6
Anthony Alvarez
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1 The Discrete Forier transform of a vector

1.1 Correctness

When comparring the function that I wrote dft() to the numpy version of dft fft() I find that the results are equivalent to within 0.00000001. That is close enough and I would say that the results are equal.

1.2 Timing

While I have shown that I *can* use my own implementation of dft it is generaly a good idea to check for packages which are already written as they are usually much faster. As we can see in figure 1 my dft implementation is absolutely much slower and also has worse scaling proporties when compared with the numpy version.

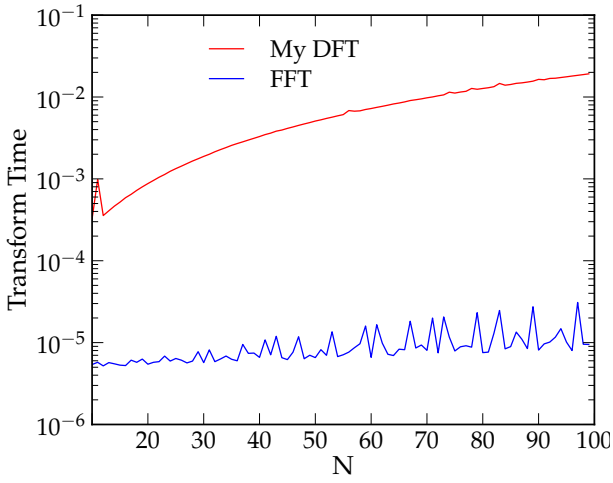

Figure 1: My DFT runs much less efficiently than the numpy FFT. Both running absolutely slower and having worse scalling proporties.