Note on Problem 8, Assignment 2

In this problem the DFT works slightly differently. Given f which is 2π-periodic, given N, an even integer, let $\omega = 2\pi/N$. We interpolate f at the points

$$t = 0,\ \omega,\ 2\omega, \ldots,\ (N-1)\omega$$

by a function of the form

$$g(t) = d_0 + \Sigma_{k=1}^{N/2} d_k e^{ikt} + \Sigma_{k=1}^{N/2-1} d_{N-k} e^{-ikt}$$

The coefficients d_k satisfy exactly the same equations as in the book involving the Fourier matrix.