$N = 100; f = 0.255; X(f) = \sum_{t=1}^{N} x(t)e^{-2\pi j f(t-1)}$

$x(t) = 1\sin[2\pi f(t-1)] + 1\cos[2\pi f(t-1)]; t = 1, ..., N$

$f = \frac{k-1}{N}, \quad k = 1, ..., N$