

procedure $\text{fft}(x, y, n, \omega)$

if $n = 1$ **then**

$y[0] = x[0]$

{ bottom of recursion }

else

for $k = 0$ **to** $(n/2) - 1$

$p[k] = x[2k]$

{ split into even and

$s[k] = x[2k + 1]$

odd subsequences }

end

$\text{fft}(p, q, n/2, \omega^2)$

{ call fft procedure

$\text{fft}(s, t, n/2, \omega^2)$

recursively }

for $k = 0$ **to** $n - 1$

$y[k] = q[k \bmod (n/2)] +$
 $\omega^k t[k \bmod (n/2)]$

{ combine results }

end

end