

```
function [ Ff ] = DFT( f )

N = length(f);
Ff = zeros(N,1);

for k = 0:1:N - 1 %sum over orthonormal base
    s = 0;
    for l = 0:1:N - 1 %sum over inputs
        s = s + 1/sqrt(N)*f(l + 1)*exp((-2*i* pi *k * l)/N);
    end
    Ff(k + 1) = s;
end

Ff = sqrt(N)*Ff; %normalization term

end
```