```
function [state] = delay_init(Nmax, N)
%initialize the delay block
% Inputs:
%   Nmax    Maximum delay supported by this block.
%   N   Initial delay
% Outputs:
%   state   State of block
%% 1. Save parameters
state.Nmax = Nmax;

% Store initial desired delay.
state.N = N;

%% 2. Create state variables

% Make the size of the buffer at least twice of the maximum delay.
% Allows us to copy in and then read out in just two steps.
state.M = 2^(ceil(log2(Nmax))+1);

% Get mask allowing us to wrap index easily
state.Mmask = state.M-1;

% Temporary storage for circular buffer
state.buff = zeros(state.M, 1);

% Set initial head and tail of buffer
state.n_h = 0;
state.n_t = state.N;
```