

```
% Calculate the FFT for a truncated step
% Let tend be the end of the step.
```

```
M = 8;
N = 2^M;
n = 0:1:N-1;
tend = 4;
T = 10;
dt = T/N;
t = n*dt;
```

```
w = zeros(length(t),1);
for (i = 1:1:length(w))
    if (t(i) <= tend)
        w(i) = 1;
    end;
end;
```

```
% Calculating FFT
W = dt*fft(w);
f = n/T;
```

```
subplot(211);
plot(t,w);
xlabel('t');
ylabel('w(t)');
title('Time Waveform');
```

```
subplot(212);
plot(f(1:N/2),abs(W(1:N/2)));
xlabel('f');
title('MAGNITUDE SPECTRUM to fs/2');
```