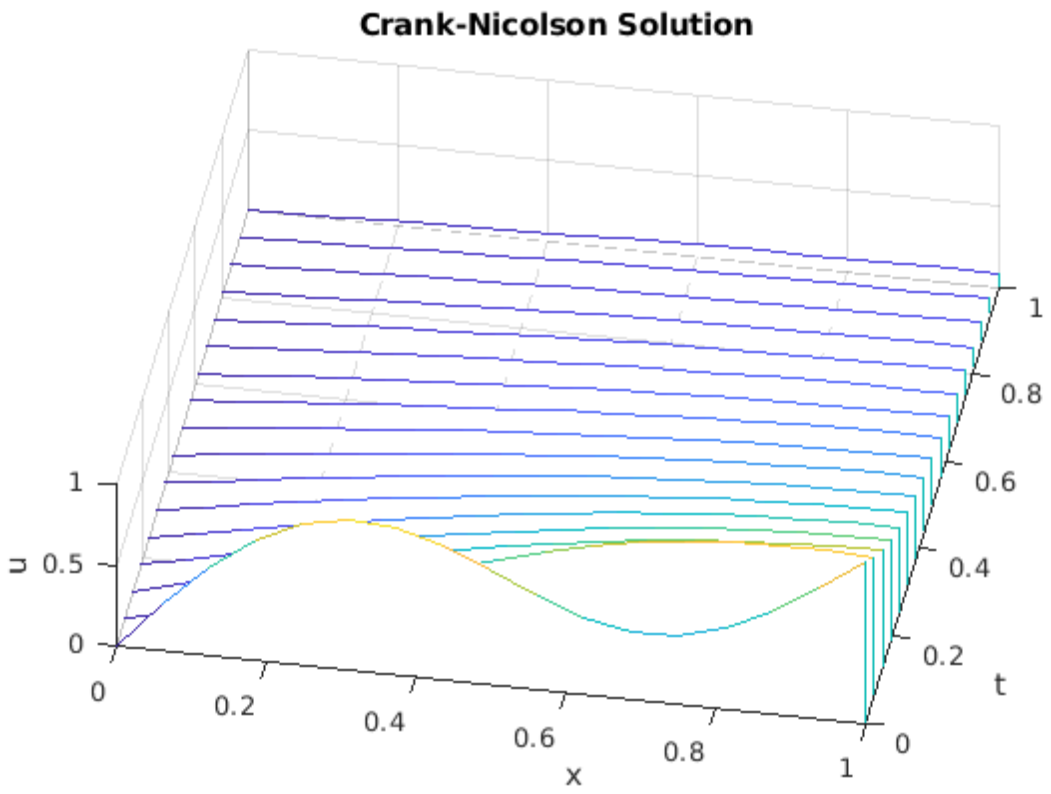
```
% Uses a waterfall  plot to plot the Crank-Nicolson solution

clear all;
close all;

N = 16;
m = 15;
alp = 1;
tspan = 1;

f = @(x) sin(pi*x/2) + 0.5*sin(2*pi*x);

g0 = @(t) 0;
g1 = @(t) exp((-pi^2*t)/4);

%Numerical solution
[u,t,x] = cnhteq(f,g0,g1,tspan,alp,N,m);

waterfall(x,t,u), view(10,70)
axis([0 1 0 1 0 1] ), xlabel x, ylabel t, zlabel u
title('Crank-Nicolson Solution');
```



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