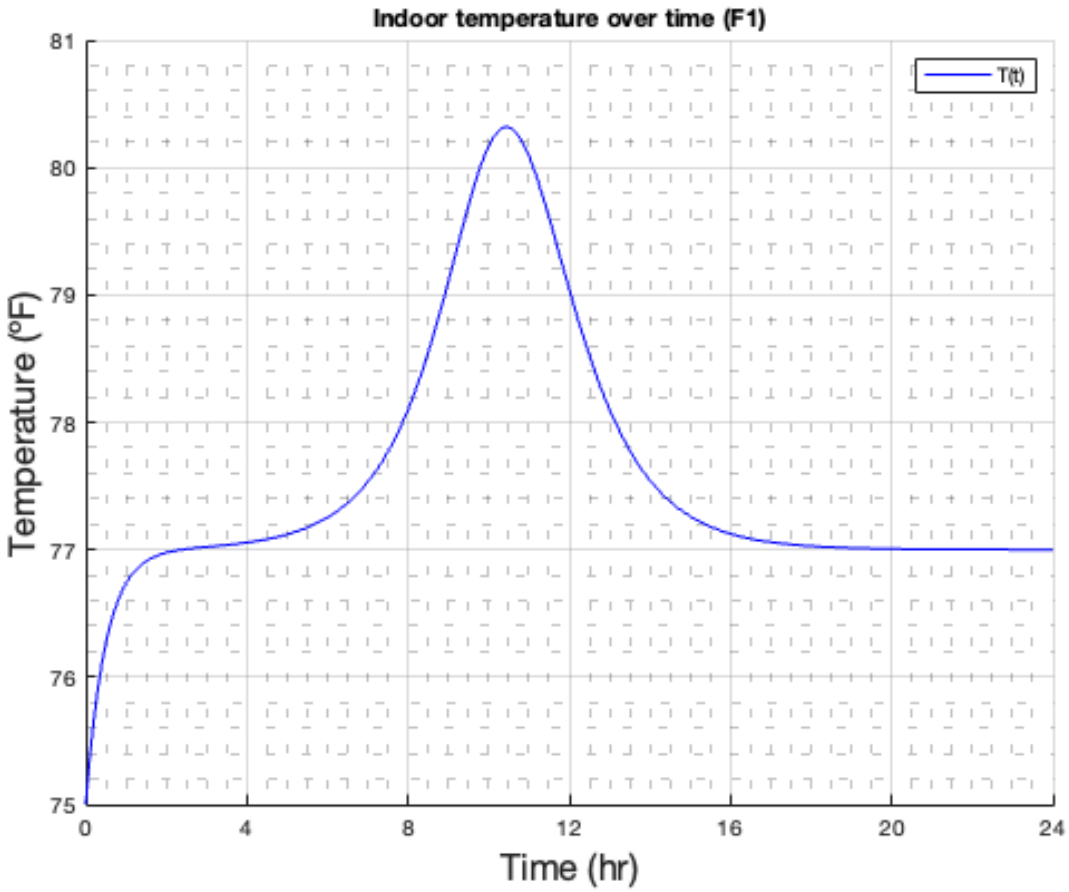
```
%5 task set F #1

ti=0;
tf=24;
npts=240;
T0=75;

%H=7*sech((3/4)*(th-10));

[out1,out2]=rk4(ti,tf,npts,T0,@differential);

maxIndoor = max(out2,[],'all'); %80.316914642785050
indexOfmaxIndoor = find(out2==maxIndoor);%105
timeOfmaxIndoor = out1(indexOfmaxIndoor);%10.4


%T(t)
figure(1);
hold on
plot(out1,out2,'blue');
title('Indoor temperature over time (F1)')
xlabel('Time (hr)','FontSize',16)
ylabel('Temperature (°F)','FontSize',16)
legend('T(t)')
xticks(0:4:24)
xlim([0 24])
grid on
grid minor
hold off



function f = differential(t,T);
f=7*sech((3/4)*(t-10))+2*(77-T);
end
```



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