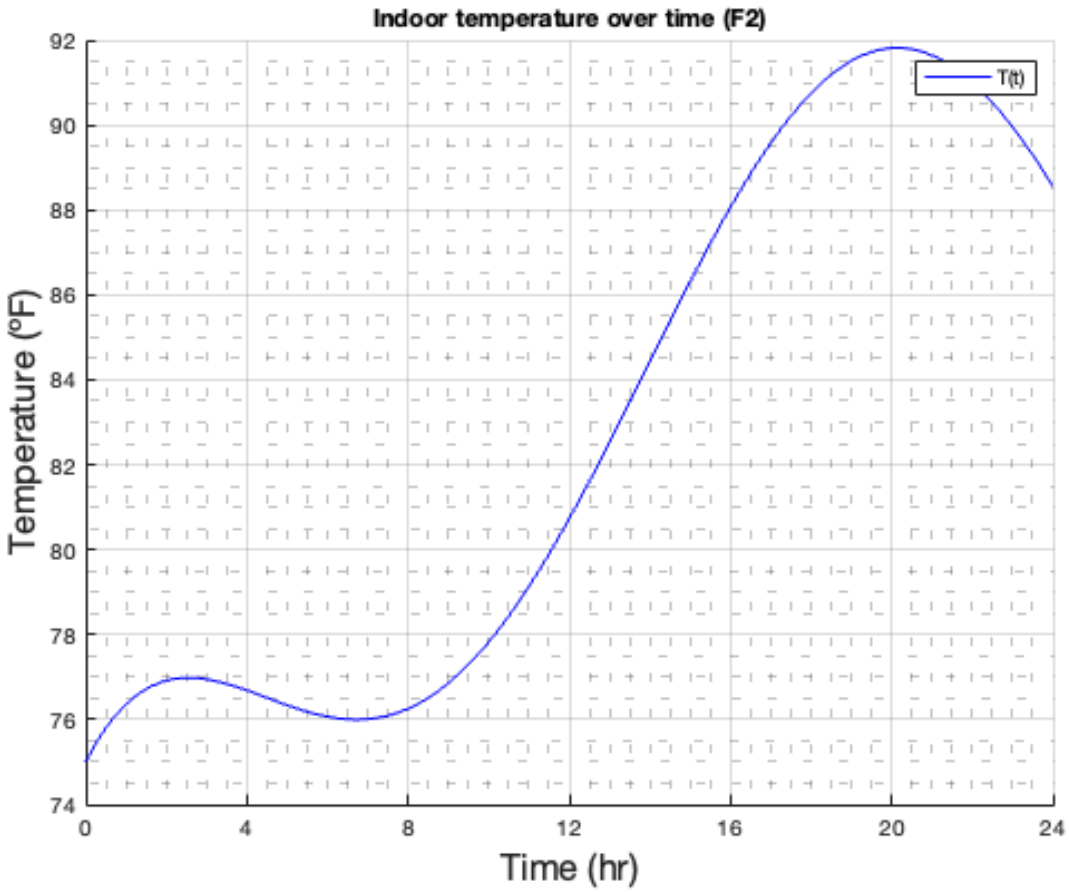
```
%5 task set F #2


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


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

maxIndoor = max(out2,[],'all'); %91.816869263615300
indexOfmaxIndoor = find(out2==maxIndoor);%202
timeOfmaxIndoor = out1(indexOfmaxIndoor);%20.1

indexOfBroken = find(out2>=81);%123
timeOfBroken = out1(indexOfBroken);%12.200000000000000


%T(t)
figure(1);
hold on
plot(out1,out2,'blue');
title('Indoor temperature over time (F2)')
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=0.25*(85-10*cos(pi*(t-5)/12)-T);
end
```



Published with MATLAB® R2021b