```matlab
%4.3 task set E

ti=0;
tf=24;
npts=240;
T01=65;
T02=95;
kd1=.2;
kd2=2.0;
Td=77;
th=0:.1:24;
%Q=kd(Td-T);

[out1a,out2a]=rk4(ti,tf,npts,T01,@differential1);
[out1b,out2b]=rk4(ti,tf,npts,T01,@differential2);
[out1c,out2c]=rk4(ti,tf,npts,T02,@differential1);
[out1d,out2d]=rk4(ti,tf,npts,T02,@differential2);


%T(t)
figure(1);
hold on
plot(out1a,out2a,'blue');
plot(out1b,out2b,'red');
plot(out1c,out2c,'green');
plot(out1d,out2d,'black');
title('Temperature inside the building over time, given A(t)=H(t)=0')
xlabel('Time (hr)','FontSize',16)
ylabel('Temperature (ºF)','FontSize',16)
legend('T(0)=65,\kappa_d=0.2','T(0)=65,\kappa_d=2.0','T(0)=95,
\kappa_d=0.2','T(0)=95,\kappa_d=2.0');
xticks(0:4:24)
xlim([0 24])
grid on
grid minor
hold off

function f = differential1(t,T);%use kd1
f=0.2*(77-T);
end
 function f = differential2(t,T); %use kd2
f=2.0*(77-T);
end
```
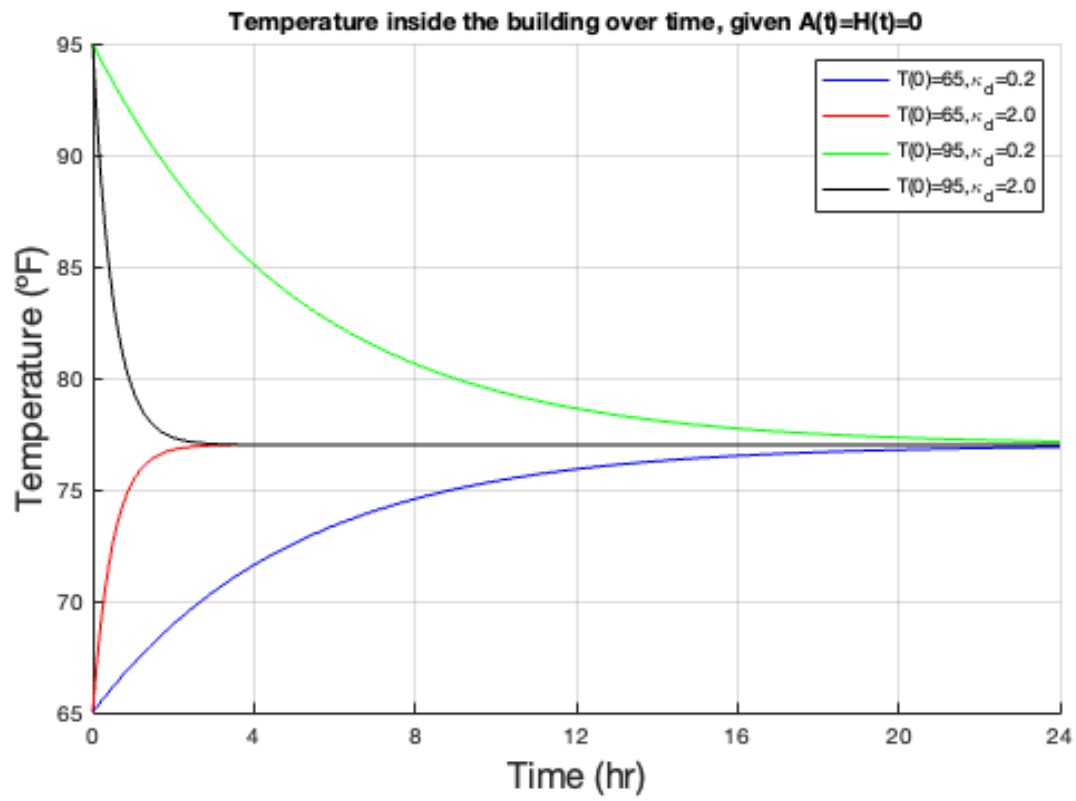
Temperature inside the building over time, given A(t)=H(t)=0

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