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%rk4 function was loaded into a sepearate file and called from this file
addpath('/Users/addi/Documents/MATLAB/APPM-2360/Proj 1');

%rk4 paramaters
ti = 0;
tf = 24;
npts = 240;
y0 = 50;

%functions: f is differential equation, g is exact solution
f = @(t,T) 0.25*(75 - T);
g = @(t) 75 - 25*exp(-0.25*t);

%rk4 call
[t,w] = rk4(ti,tf,npts,y0,f);

% plot solved vs rk
hold on;
plot (t,w, "r o")
plot (t,g(t), "b-")

%error plot: commented out parts sepearatley to obtain diffrent graphs
plot (t,(g(t)-w),"k--")
hold off

```



