

```

%meleti tou systimatos aniktou broxou automatou elegxou 2hs taxis
%diatypwmenou stin typoiki morfi  $1/(s^2+2*z*w_0*s+w_0^2)$ 
clear all
syms w0 z t s y YM;
YM = 1/(s^2+2*z*w0*s+w0^2);
y=ilaplace(YM,t);
y
%simplify(y)
clear t y z w0; %gia na min exw tis idies metablites kai se symbolic logic
           %kai se klasiko kwdika
t=[0:0.01:25];
%z=1.2;w0=1%syglinei grigora
z=0.2;w0=1%syglinei pio arga. parathrw oti o tropos kai h timi tis syglisis DEN
exartatai apo to w0 se ayto to sistima
%z=-0.2;w0=1%apoklinei pio arga
%z=-0.8;w0=1%apoklinei grigora

y=sinh(t*w0*(z^2 - 1)^(1/2))./(w0*exp(t*w0*z)*(z^2 - 1)^(1/2));
figure(99)
plot(t,y)

```