

```

syms x y t
>> dsolve('Dy=t^2+y','t')

ans =

C2*exp(t) - 2*t - t^2 - 2

>> dsolve('Dy=t^2+y','y(0)=3','t')

ans =

5*exp(t) - 2*t - t^2 - 2

>>f=dsolve('Dy=t^2+y','y(0)=3','t')

f =

5*exp(t) - 2*t - t^2 - 2

>> ezplot(f,[0,2])
>>figure, hold on
syms t c
sol=simplify(dsolve('Dy=y^2-y','y(0)=c','t'));
for cval=-1:0.25:2
ezplot(subs(sol,c,cval),[0,3]), end
>> xlabel 't', ylabel 'y'
>> title 'Solutions of dy/dt=y^2-y'
>> ode1='D2y+Dy-6*y=20*exp(t)';
>> dsolve(ode1)

ans =

C10*exp(2*t) - 5*exp(t) + C11*exp(-3*t)

>> g=dsolve(ode1,'y(0)=0','Dy(0)=1')

g =

(21*exp(2*t))/5 + (4*exp(-3*t))/5 - 5*exp(t)

>> ezplot(g,[0,2])
>>

```