syms t

disp('Chon chieu duong huong len');

disp('Goc toa do tai mat dat');

disp('Phuong trinh dinh luat II Newton cho ten lua');

disp('m\*dv/dt = -v0\*dm/dt - mg');

k=input('Nhap toc do dot nhien lieu dm/dt = ');

m0=input('Nhap khoi luong ban dau cua ten lua m0 = ');

y0=input('Nhap vi tri ban dau cua ten lua y0 = ');

v0=input('Nhap van toc day khi cua ten lua v0 = ');

g=9.81;

v=v0\*log(m0/(m0-k\*t))-g\*t;

t1=m0/k;

disp('Gia toc cua ten lua a=');

a=diff(v,1);

disp(a);

disp('Phuong trinh chuyen dong ten lua y = ');

y=y0+int(v);

disp(y);

disp('Ten lua het nhien lieu tai thoi diem t=');

disp(t1);

disp('Tai thoi diem nay ten lua da ra ngoai vu tru va khong con chuyen dong');

ezplot(t,y);

title('Do thi bieu dien phuong trinh chuyen dong cua ten lua');

xlabel('Thoi gian t');

ylabel('Vi tri y');

grid on;