#include <stdio.h>

#include <stdlib.h>

#define A11 -50

#define A22 -21.5

#define A21 -19000

#define ein 1.5

float fun1(float V1)

{

return(A11\*V1-A11\*ein);

}

float fun2(float V1, float V2)

{

return(A21\*V1+A22\*V2-A21\*ein);

}

int main()

{

FILE \*f1;

FILE \*f2;

f1= fopen("lab21.csv","w");

f2= fopen("lab22.csv","w");

int i;

float K1,K2,K3,K4,m1,m2,m3,m4,V1new,V2new,V2=0,V1=0,t, h=0.0002;

for(i=0;i<800;i++){

K1=fun1(V1);

K2=fun1(V1+K1\*h/2);

K3=fun1(V1+K2\*h/2);

K4=fun1(V1+K3\*h);

V1new=V1+((K1+2\*K2+2\*K3+K4)/6)\*h;

m1=fun2(V1,V2);

m2=fun2(V1+h/2,V2+m1\*h/2);

m3=fun2(V1+h/2,V2+m2\*h/2);

m4=fun2(V1+h,V2+m3\*h);

V2new=V2+((m1+2\*m2+2\*m3+m4)/6)\*h;

V1=V1new;

V2=V2new;

t=i\*h;

fprintf(f1,"%f\t",t);

fprintf(f1,"%f\n",V1);

fprintf(f2,"%f\t",t);

fprintf(f2,"%f\n",V2);

}

fclose(f1);

fclose(f2);

return 0;

}