```
clc;
clear all;
p=input('Enter power output:');
el=input('Enter the load voltage:');
vtot1=input('Enter total reactance between load and generator under prefault condition:');
xg=input('Enter generator transient reactance:');
vtot2=input('Enter net reactance during fault condition:');
vtot3=input('Enter total reactance during post fault condition:');
h=input('Enter the value of kinetic energy of generator :');
f=input('Enter the frequency of the system:');
cycles=input('Enter the cycles after which the fault is cleared:');
t=input('Enter the time upon which the swing is to be computed:');
delt=input('Enter the step size:');
eg=1.14652; pmax1=((eg*el)/abs(vtot1));
pi=(22/7);
timel=0;
delo=(asin(p/pmax1 ));
omegao=2* (22/7)*f;
y=t/delt;
cleartime=cycles/f;
for z=1:y
if(z*delt<=cleartime)
pmax2=(eg*el)/abs(vtot2);
elseif((z*delt)>cleartime)
pmax2=(eg* el)/abs(vtot3);
end
for i=1:4
if i==1
del=delo;
omega=omegao;
end
if i==2
del=delo+(k(1)/2);
omega=omegao+(l(1)/2);
end
if i==3
del=delo+(k(2)/2);
omega=omegao+(l(2)/2);
end
if i==4
del=delo+k(3);
omega=omegao+l(3);
end
f1=omega-(2*pi*f);
f2=(pi*f/h)* (p-(pmax2*sin(del)));
k(i)=f1*delt;
l(i)=f2*delt;
end
```

```
deldel=(k(1)+2*k(2)+2*k(3)+k(4))/6;
delomega=(l(1)+2*l(2)+2*l(3)+ l(4)) /6;
delo=delo+deldel;
omegao=omegao+ delomega;
omegal(z)=omegao;
dell(z)=delo;
timel(z)=z* delt;
end %end
plot(timel, dell)
grid
```

```
Enter power output:1
Enter the load voltage:1
Enter total reactance between load and generator under prefault condition:0.45
Enter generator transient reactance:3
Enter net reactance during fault condition:1.2
Enter total reactance during post fault condition:6
Enter the value of kinetic energy of generator :2.5
Enter the frequency of the system:50
Enter the cycles after which the fault is cleared:20
Enter the time upon which the swing is to be computed:1
Enter the step size:0.05
>>
```