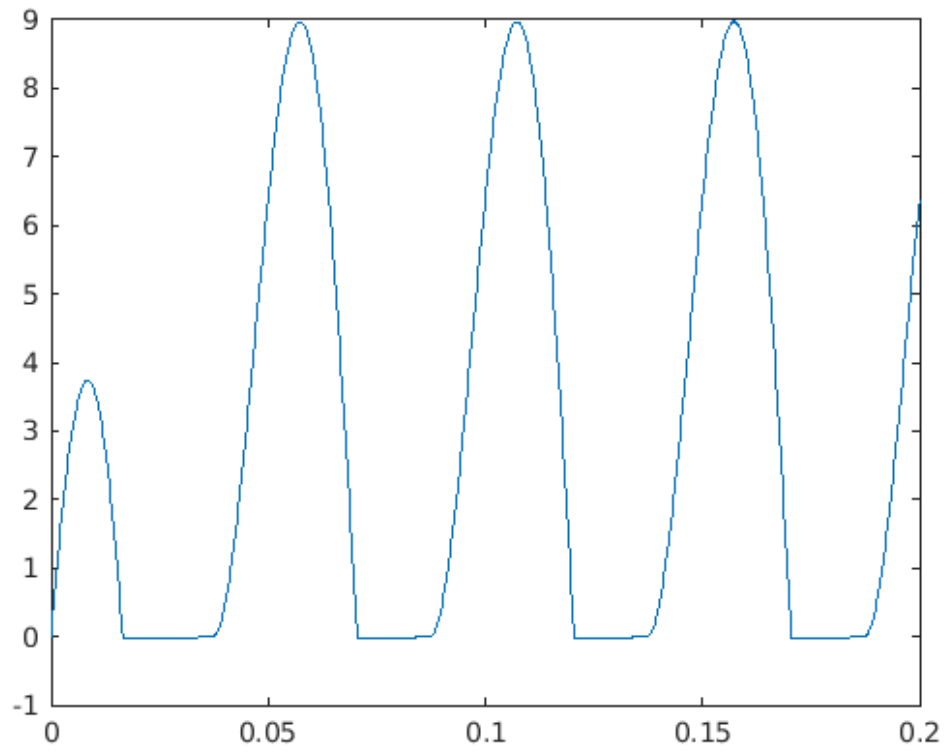


---

```

% name AC_5
tRange=[0:0.0002:0.2];
global Um; Um=800;
global f; f=20.0;
global omega; omega=2*pi*f;
global phi; phi=0.9;
global L; L=0.8;
global E; E=150.0;
global R; R=20.0;
global i0; i0=0.0;
global iprog; iprog=0.03;
global Rblock; Rblock=2000;
global alpha; alpha=0;
[tSol,iSol]=ode45(@AC,tRange,i0);
plot(tSol,iSol)
function didt=AC(t,i)
global Um; global omega; global phi; global L; global E;
global R; global iprog; global Rblock; global alpha;
beta=omega*t+phi; betal=mod(beta,2*pi);
Rez1=15*Rblock;
if betal>alpha Rez1=rezystancja(i);
end
u=Um*sin(beta+phi);
didt=(u-(Rez1+R)*i-E)/L;
function Rez=rezystancja(x)
if x>0.1*iprog Rez=0.0002*Rblock;
elseif x>0.07*iprog Rez=0.05*Rblock;
elseif x>0.05*iprog Rez=0.1*Rblock;
elseif x>0.03*iprog Rez=0.2*Rblock;
elseif x>0.01*iprog Rez=0.5*Rblock;
elseif x>0 Rez=Rblock;
elseif x>-0.01*iprog Rez=2*Rblock;
elseif x>-0.03*iprog Rez=3*Rblock;
elseif x>-0.05*iprog Rez=4*Rblock;
elseif x>-0.07*iprog Rez=5*Rblock;
elseif x>-0.09*iprog Rez=6*Rblock;
elseif x>-0.11*iprog Rez=8*Rblock;
else Rez=15*Rblock;
end
end
end
end

```



*Published with MATLAB® R2020b*