

```

t=linspace(0,20,1000);
x2=cos(t);
x2(x2>0)=ones(size(x2(x2>0)));
x2(x2<0)=-ones(size(x2(x2<0)));
apos_k=zeros(1,5);
aneg_k=zeros(1,5);
s=zeros(5,1000);
for k=(1:5)
    apos_k(k)=(1-cos(pi*k))*sin(pi*k/2)/(pi*k);
    aneg_k(k)=(1-cos(pi*(-k)))*sin(pi*(-k)/2)/(pi*(-k));
    s(k,:)=apos_k(k)*exp(1i*k*t)+aneg_k(k)*exp(1i*(-k)*t);
end
plot(t,x2,'k');grid;hold on
plot(t,real(sum(s)),'r');legend('x2','sum(s)');hold on

```

