```
F=[-1:0.01:1];
X=1./(1-0.9*exp(-i*2*pi*(F-(1./8))));
Y=0.5*(1./(1-0.9*exp(-i*2*pi*(F-(1./8)))))+(0.5*conj(1./(1-0.9*exp(-
i*2*pi*(-F-(1./8))))));
figure(1);
clf;
subplot(211)
hold on
plot(F,real(X),'LineWidth',2);
plot(F,real(Y),'LineWidth',2);
xlabel('Frequency [cycles/sample]');
ylabel('Real component');
legend('X(f)','Y(f)');
hold off
subplot(212)
hold on
plot(F,imag(X),'LineWidth',2);
plot(F,imag(Y),'LineWidth',2);
xlabel('Frequency [cycles/sample]');
ylabel('Imaginary component');
legend('X(f)','Y(f)');
hold off
print -dpng realImagHW4-5.png
figure(2);
clf;
subplot(211)
hold on
plot(F,abs(X),'LineWidth',2);
plot(F,abs(Y),'LineWidth',2);
xlabel('Frequency [cycles/sample]');
ylabel('Magnitude');
legend('X(f)','Y(f)');
hold off
subplot(212)
hold on
plot(F,angle(X),'LineWidth',2);
plot(F,angle(Y),'LineWidth',2);
xlabel('Frequency [cycles/sample]');
ylabel('Phase');
legend('X(f)','Y(f)');
hold off
print -dpng magPhaseHW4-5.png
```

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