



```

M2.4 t = 0:0.001:1;
fo = input('Frequency of sinusoid in Hz = ');
FT = input('Sampling frequency in Hz = ');
g1 = cos(2*pi*fo*t);
plot(t,g1,'-');
xlabel('time'); ylabel('Amplitude'); hold
n = 0:1:FT;
gs = cos(2*pi*fo*n/FT);
plot(n/FT,gs,'o'); hold off

```

```

M2.5 t = 0:0.001:0.85;
g1 = cos(6*pi*t); g2 = cos(14*pi*t); g3 =
cos(26*pi*t);
plot(t/0.85,g1,'-', t/0.85, g2, '--', t/0.85, g3, ':');
xlabel('time'); ylabel('Amplitude'); hold
n = 0:1:8; gs = cos(0.6*pi*n); plot(n/8.5,gs,'o');
hold off

```

M2.6 As the length of the moving average filter is increased, the output of the filter gets more smoother. However, the delay between the input and the output sequences also increases (This can be seen from the plots generated by Program 2_4.m for various values of the filter length.)

```

M2.7 alpha = input('Alpha = ');
y0 = 1; y1 = 0.5*(y0 + (alpha/y0));
while abs(y1-y0)>0.00001
y2 = 0.5*(y1+(alpha/y1));

```