%Multirate Signal Processing.

%Program for Interpolation of Signal

%Sonu Sharma

%TE EXTC B Roll No.:630

fs=1000;

a=1.5;

b=1;

f1=50;

f2=100;

t=0:1/fs:1;

x=(a\*cos(2\*pi\*f1\*t))+(b\*cos(2\*pi\*f2\*t));

y=interp(x,5);

stem(x(1:25));

xlabel('Discrete time, nT');

ylabel('Input signal level');

figure;

stem(y(1:100));

xlabel('Discrete time, 4\*nT');

ylabel('Output signal level');

figure;

Output:



%Program for Multirate Signal Processing-Decimation

%Sonu Sharma

%TE EXTC B Roll No.:630

fs=1000;

a=1.5;

b=1;

f1=50;

f2=100;

t=0:1/fs:1;

x=(a\*cos(2\*pi\*f1\*t))+(b\*cos(2\*pi\*f2\*t));

y=Decimate(x,5);

stem(x(1:100));

xlabel('Discrete time, nT');

ylabel('Input signal level');

figure;

stem(y(1:15));

xlabel('Discrete time, 4\*nT');

ylabel('Output signal level');

Output:

