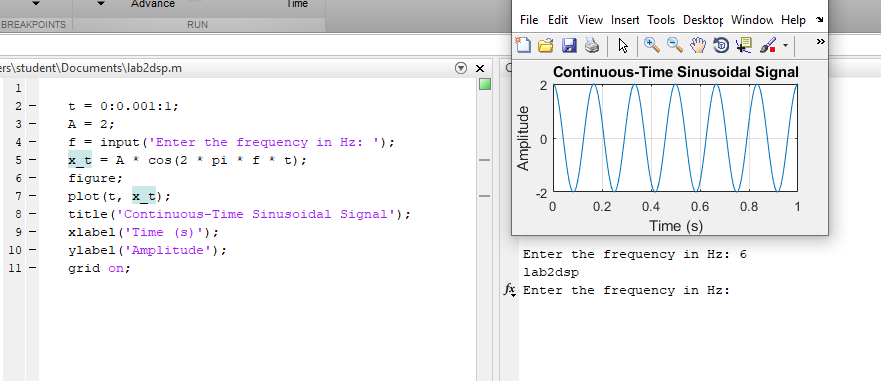
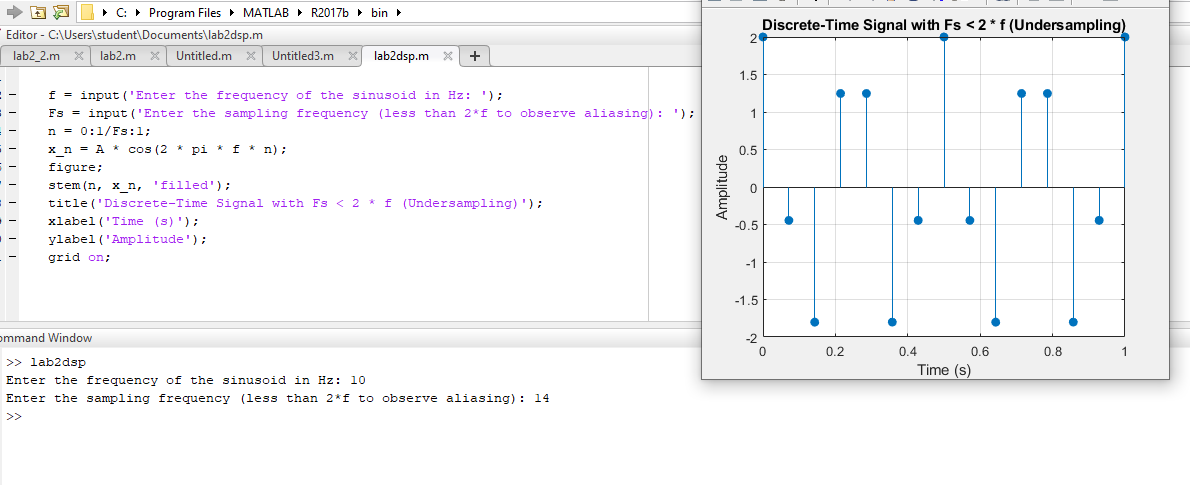
**Lab 2**

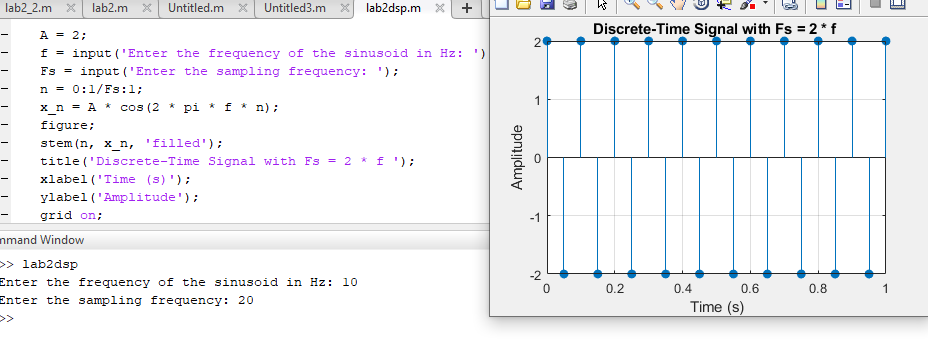
**Task 1**

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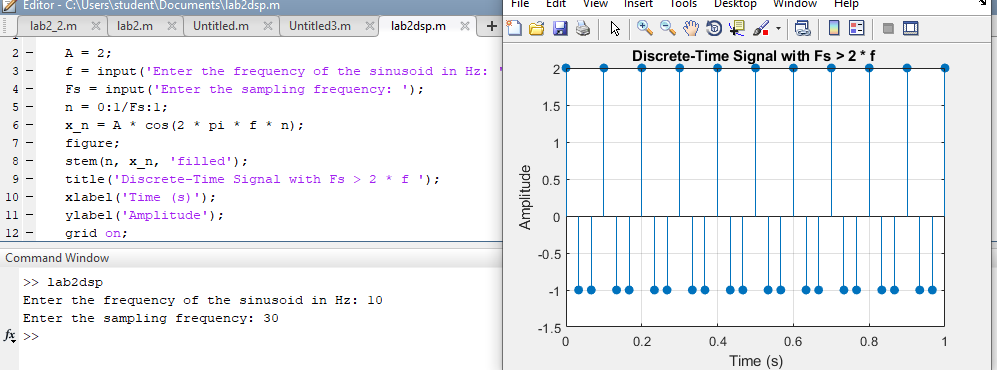
**Task 2**

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**Task 3**

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**Task 4**

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**Task5**

t = 0:0.001:1;

x\_t = A \* cos(2 \* pi \* f \* t);

Fs1 = 1.5 \* f;

n1 = 0:1/Fs1:1;

x\_n1 = A \* cos(2 \* pi \* f \* n1);

Fs2 = 2 \* f;

n2 = 0:1/Fs2:1;

x\_n2 = A \* cos(2 \* pi \* f \* n2);

Fs3 = 4 \* f;

n3 = 0:1/Fs3:1;

x\_n3 = A \* cos(2 \* pi \* f \* n3);

figure;

subplot(2,2,1);

plot(t, x\_t);

title('Continuous-Time Signal');

xlabel('Time (s)');

ylabel('Amplitude');

grid on;

subplot(2,2,2);

stem(n1, x\_n1);

title('Fs < 2 \* f (Undersampling)');

xlabel('Time (s)');

ylabel('Amplitude');

grid on;

subplot(2,2,3);

stem(n2, x\_n2);

title('Fs = 2 \* f (Nyquist Rate)');

xlabel('Time (s)');

ylabel('Amplitude');

grid on;

subplot(2,2,4);

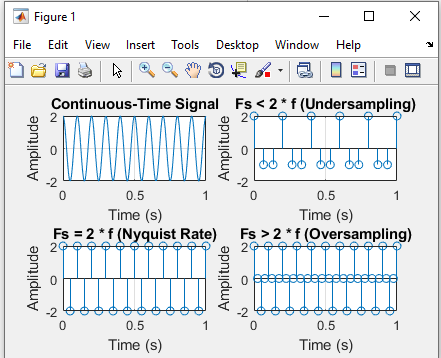
stem(n3, x\_n3);

title('Fs > 2 \* f (Oversampling)');

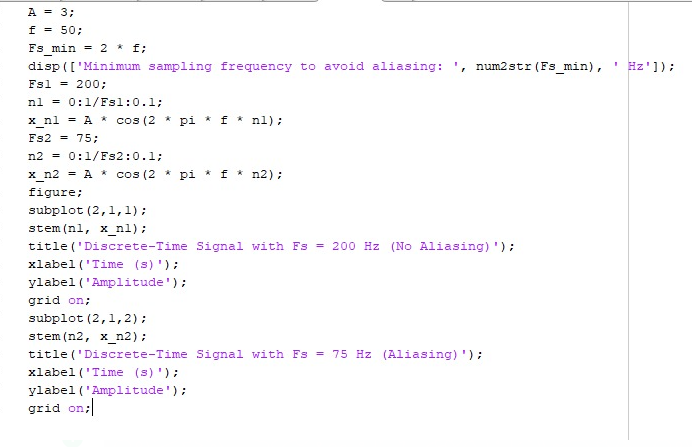
xlabel('Time (s)');

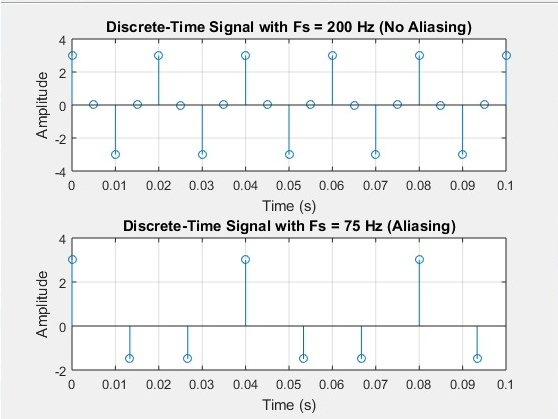
ylabel('Amplitude');

grid on;

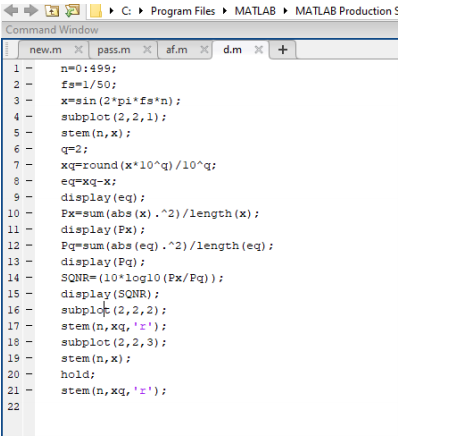
****

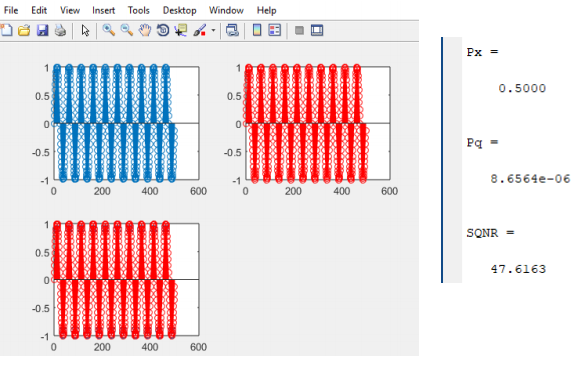
**Task 6**

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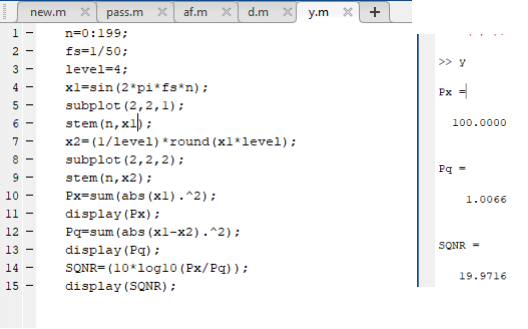
**  
lab 3**

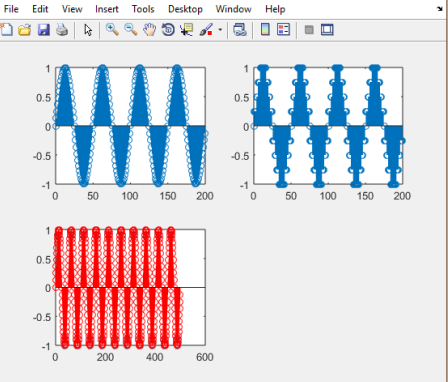
**task1**

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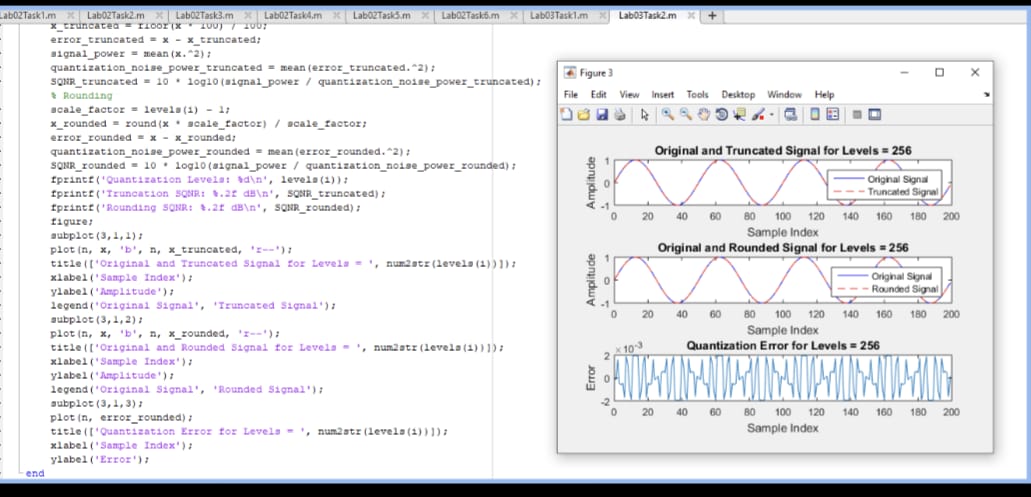
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**Task 2**

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**b)**

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