# Question 01

A close up of text on a white background

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## Code

clc

clear all

close all

% from the given figure

% part\_A

A=9;

T=2;

f=1/T;

w=2\*pi\*f;

phase\_shift=45;

t=0:0.01:4;

s=A\*cos(w.\*t+phase\_shift);

plot(t,s,'r')

xlabel('time(seconds)')

ylabel('s(t)')

title('Original plot')

grid on

% part\_b

part\_b=9\*sin(-w.\*t+phase\_shift);

figure

plot(t,part\_b,'r')

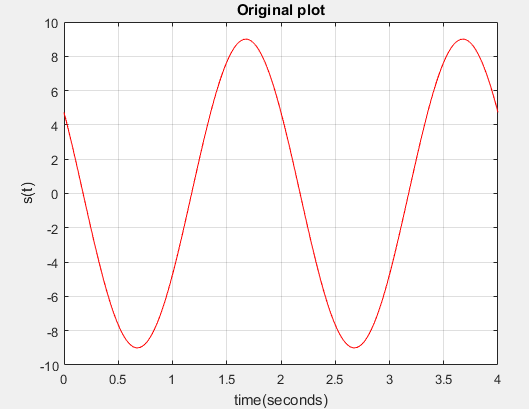
xlabel('time(seconds)')

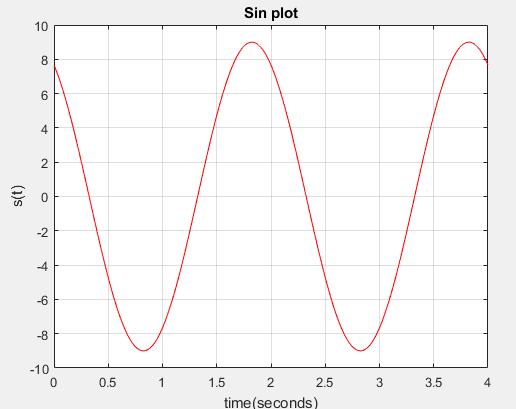
ylabel('s(t)')

title('Sin plot')

grid on

## Output





# Question 02

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## Code

clc

clear all

close all

w=2\*pi\*30;

t=0:1/300:0.2;

x=2\*cos(w.\*t+5)+8\*cos(w.\*t+9)+4\*cos(w.\*t);

subplot 211

plot(t,x)

xlabel('time(seconds)')

ylabel('x(t)')

title('part a')

grid

subplot 212

part\_b=3.0512\*cos(w.\*t+2.672);

plot(t,part\_b)

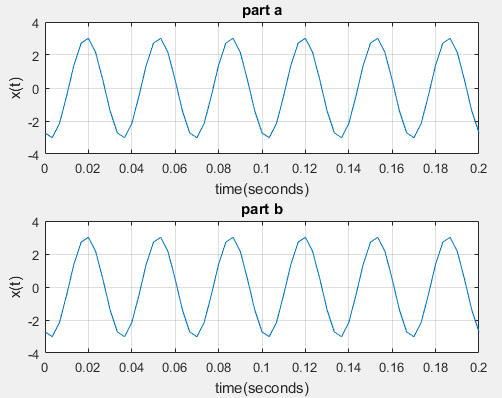
xlabel('time(seconds)')

ylabel('x(t)')

title('part b')

grid

## Output



# Question 03

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# Question 04

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