i))

```
a = 5;
b = 4;
sum = a+b;
sub = b-a;
```

output:

```
sum = 9;
sub = -1;
```

2) Array

a = [1 2 3 4 5 6 7 8 9 10]

output:

a = [1 2 3 4 5 6 7 8 9 10]

a = 1 : 2 : 10

output:

a = 1 3 5 7 9.

z = 0 : .1 : 1

output:

z = 0. 0.1000 0.2000 0.300 0.400 0.500 0.600 0.7000 0.8000 0.900 1.0000.

3) c = 0 : 0 : 1 : 1

output:

c =

column 1 through 8:

0 0.1000 0.2000 0.3000 0.4000 0.5000

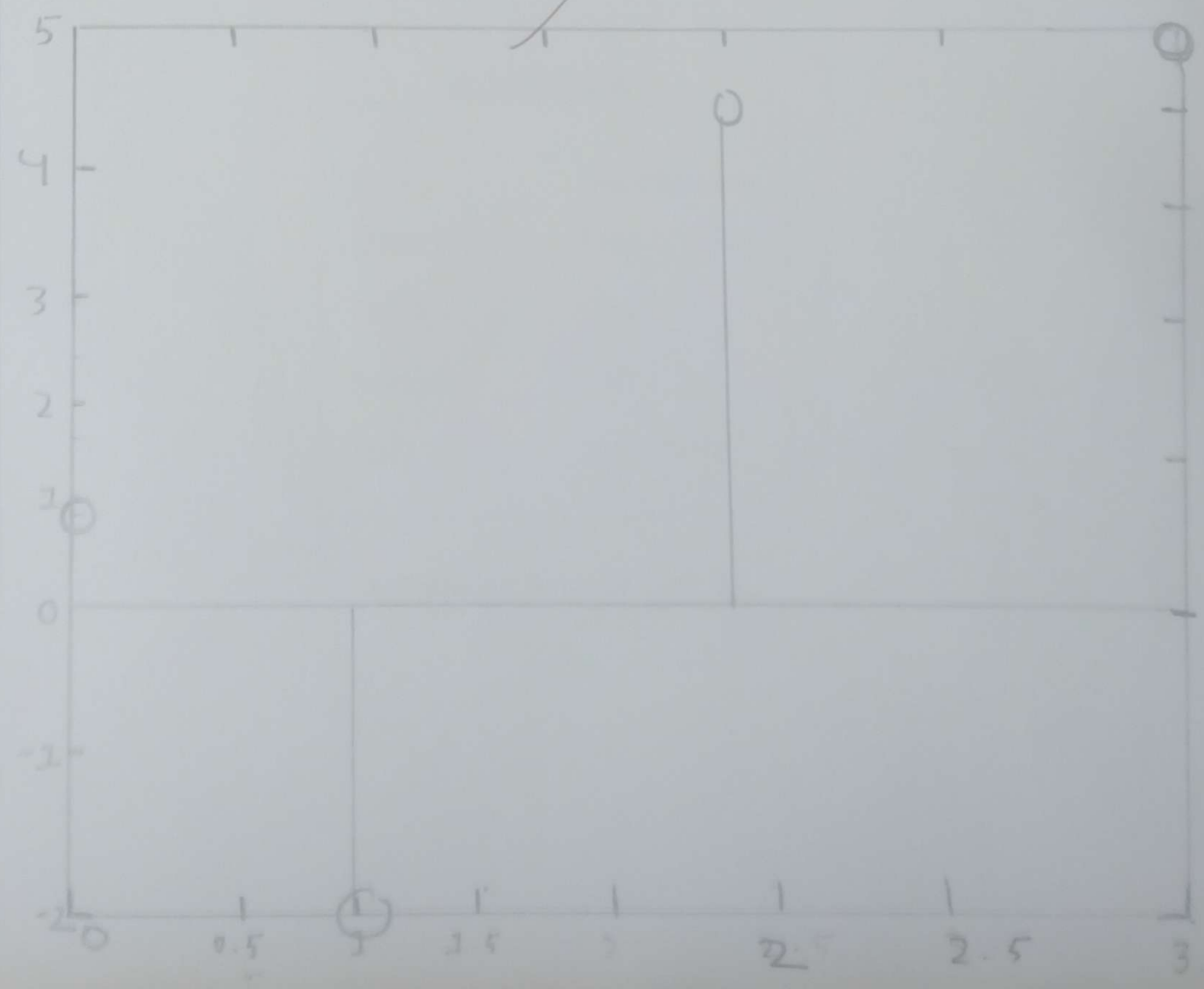
4) x = [1 -2 4 5];

n = [0 1 2 3];

figure(1).

stem: (n, x)

output:



signum function:

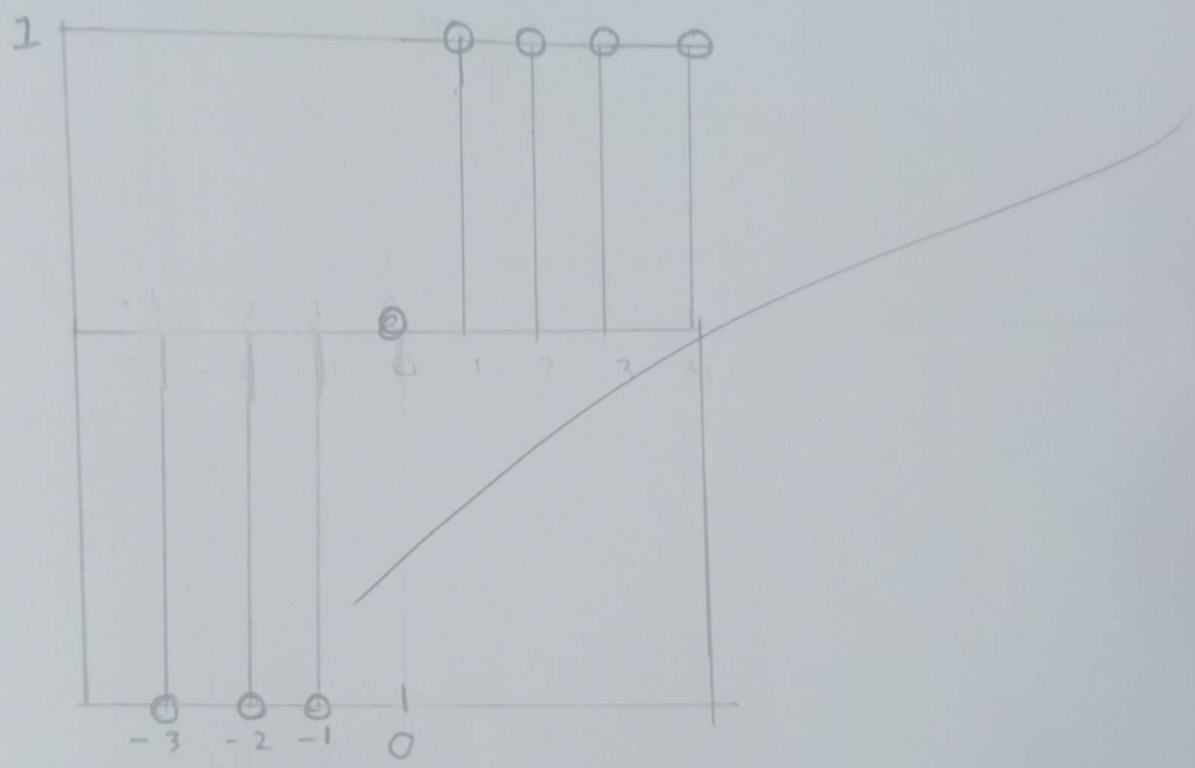
$x = [-1 \ -1 \ -1 \ 0 \ 1 \ 1 \ 1 \ 1]$

$n = [-3 \ -2 \ -1 \ 0 \ 1 \ 2 \ 3 \ 4]$

Input: figure(1)

Input: stem(n, x)

output:



1.

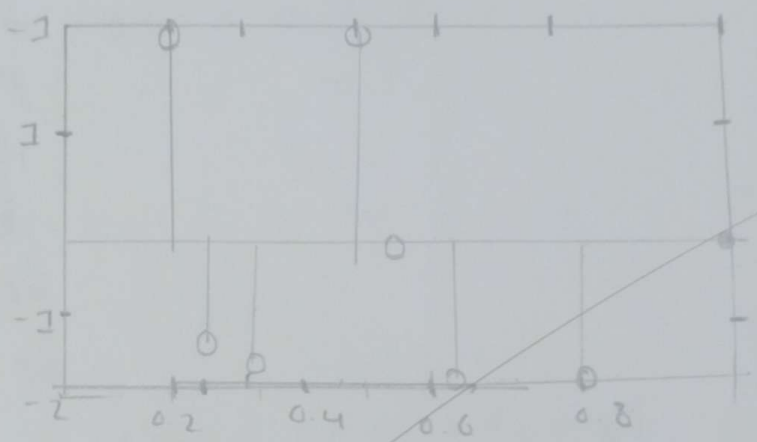
-> A = 2

-> f = 3

-> t = 0 : 0.1 : 1

-> xt = A * sin (2 * pi * f * t)

stem (t, xt).



2) pi

ans = 3.1416

-> A = 2

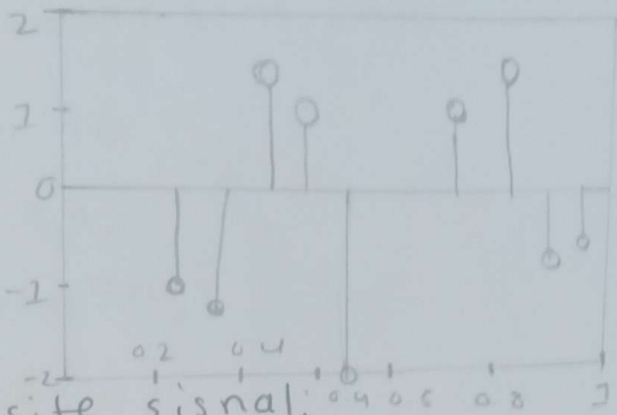
-> f = 3

-> t_2 = 0 : 0.1 : 1.

-> xt_2 = A * cos (2 * pi * f * t_2)

figure (2)

stem (t_2, xt_2).



3. composite sisnal:

-> $a_1 = 2$ -> t = 0:0.1:1

-> $a_2 = 3$

-> $a_3 = 4$

-> $f_1 = 3$

-> $f_2 = 10$

-> $f_3 = 30$

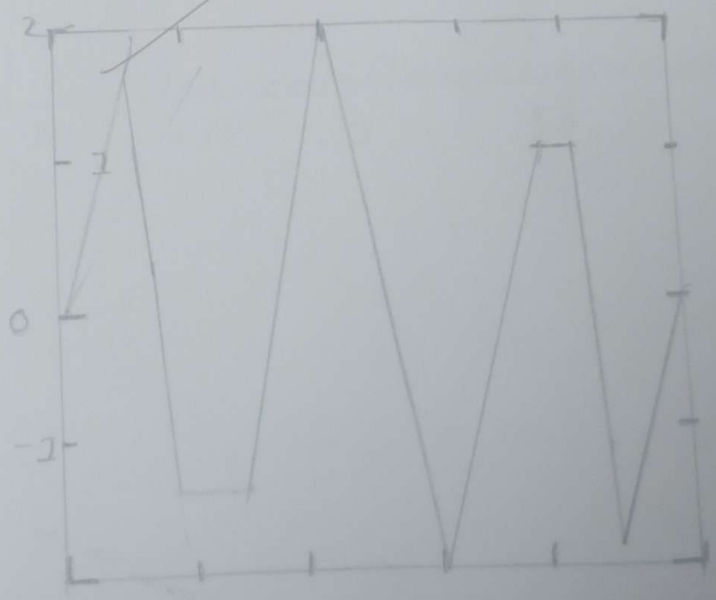
-> ~~plot~~

-> $xt1 = a_1 * \sin(2 * pi * f_1 * t)$;

-> $xt2 = a_2 * \sin(2 * pi\ f_2 * t)$;

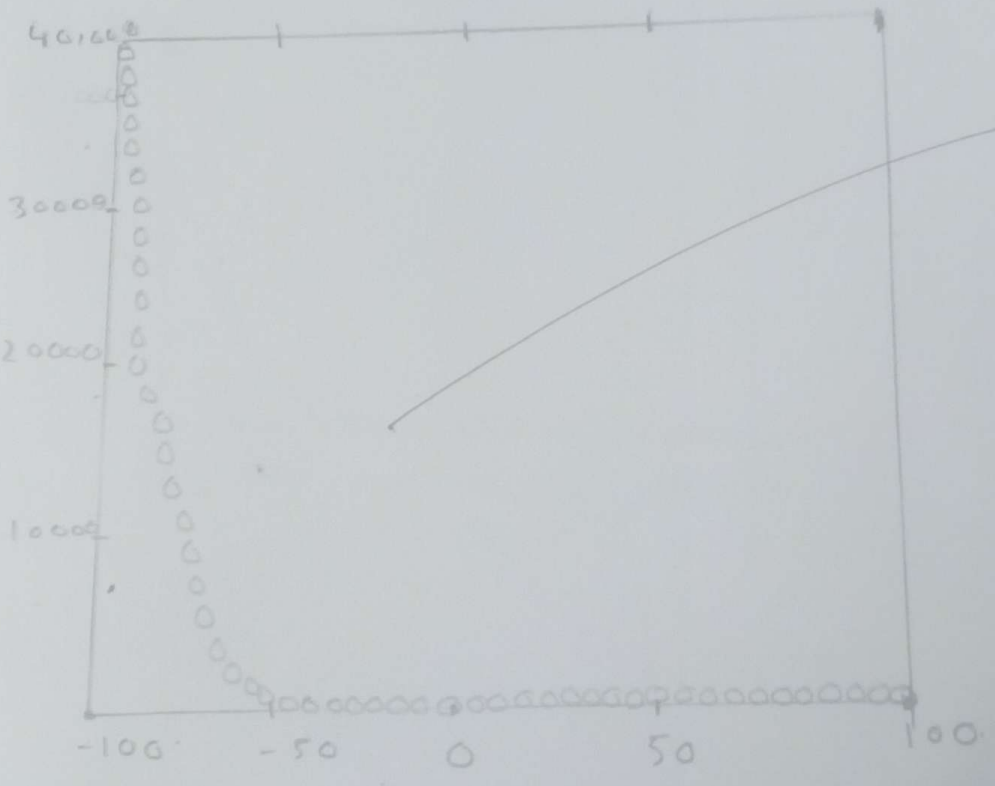
-> $xt3 = a_3 * \sin(2 * pi * f_3 * t)$.

-> $xt = xf1 + xt2 + xf3)$.



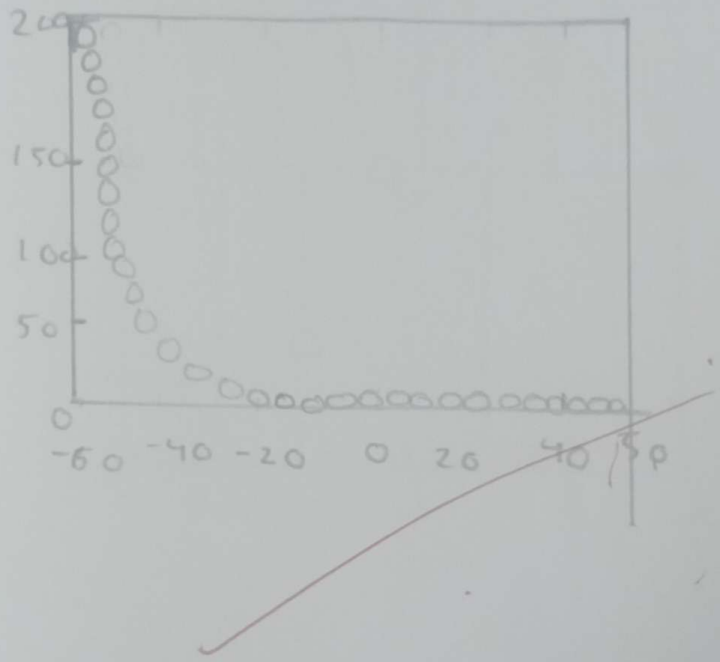
4. Exponential signal:

```
n = -100 : 10
alpha = 0.9;
xn = alpha ^ n;
-> figure (4)
-> stem (n, xn).
```



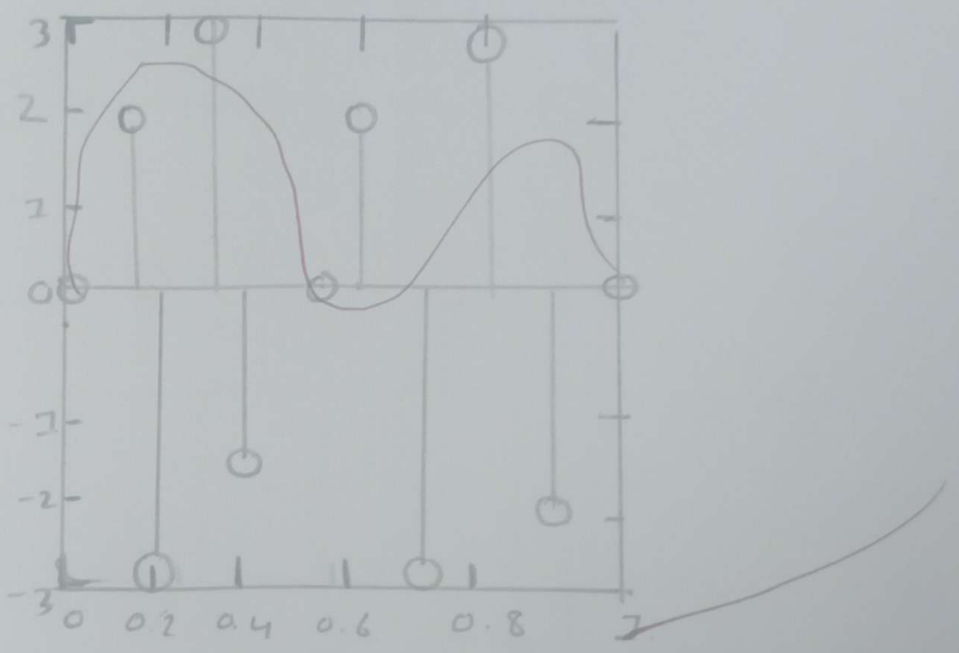
4. Exponential signal.

```
n = -50 : 50;
alpha = 0.9;
xn = alpha.^n;
stem(n, xn);
```



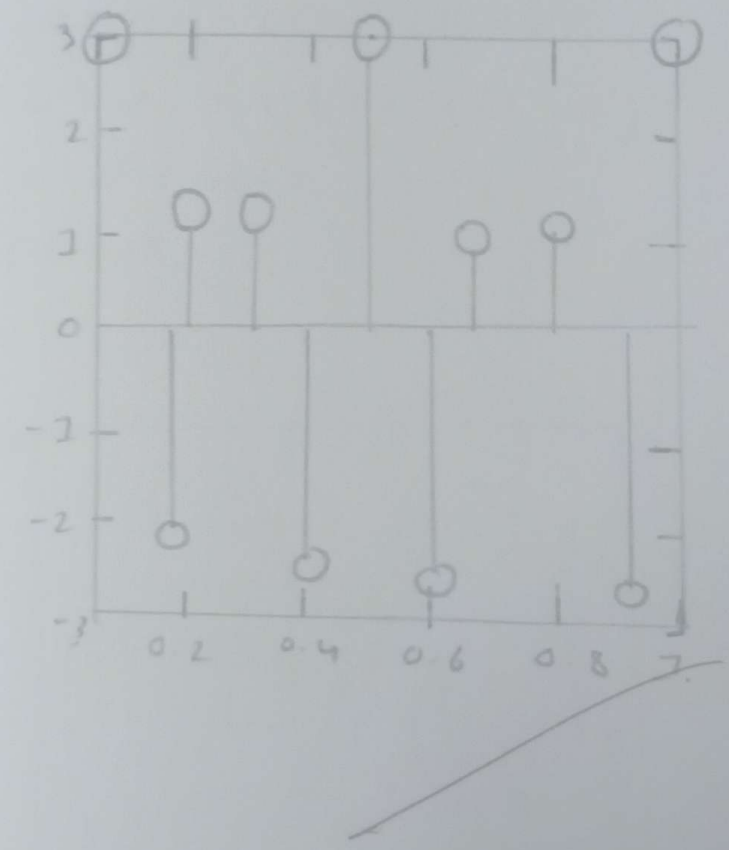
1. sin wave:

```
A = 3;
f = 4;
t = 0:0.1:1;
nt = a*sin(2*pi*f*t);
stem(t, nt);
```



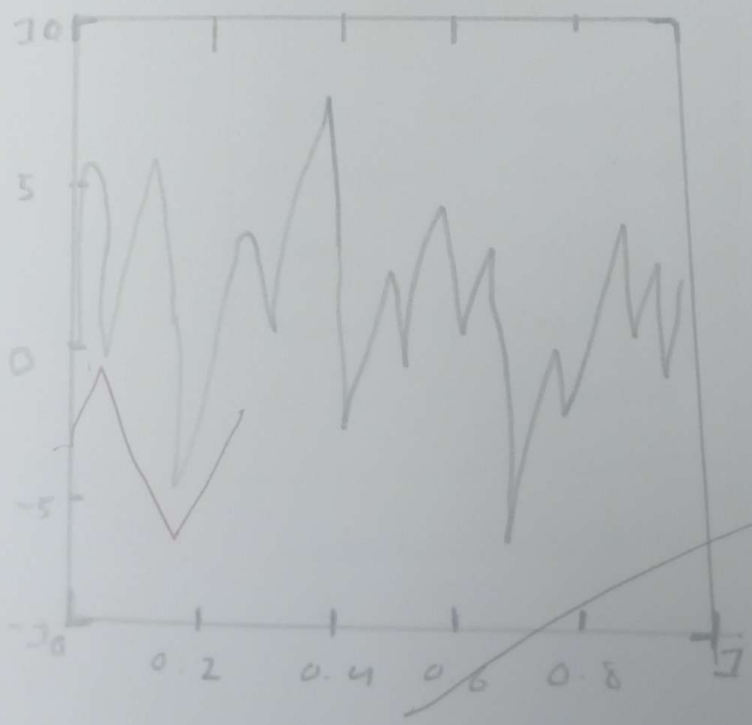
2) cos wave.

```
A=3;
f=4;
t=0:0.1:1;
xt= a*cos(2*pi*f*t);
stem(t,xt);
```



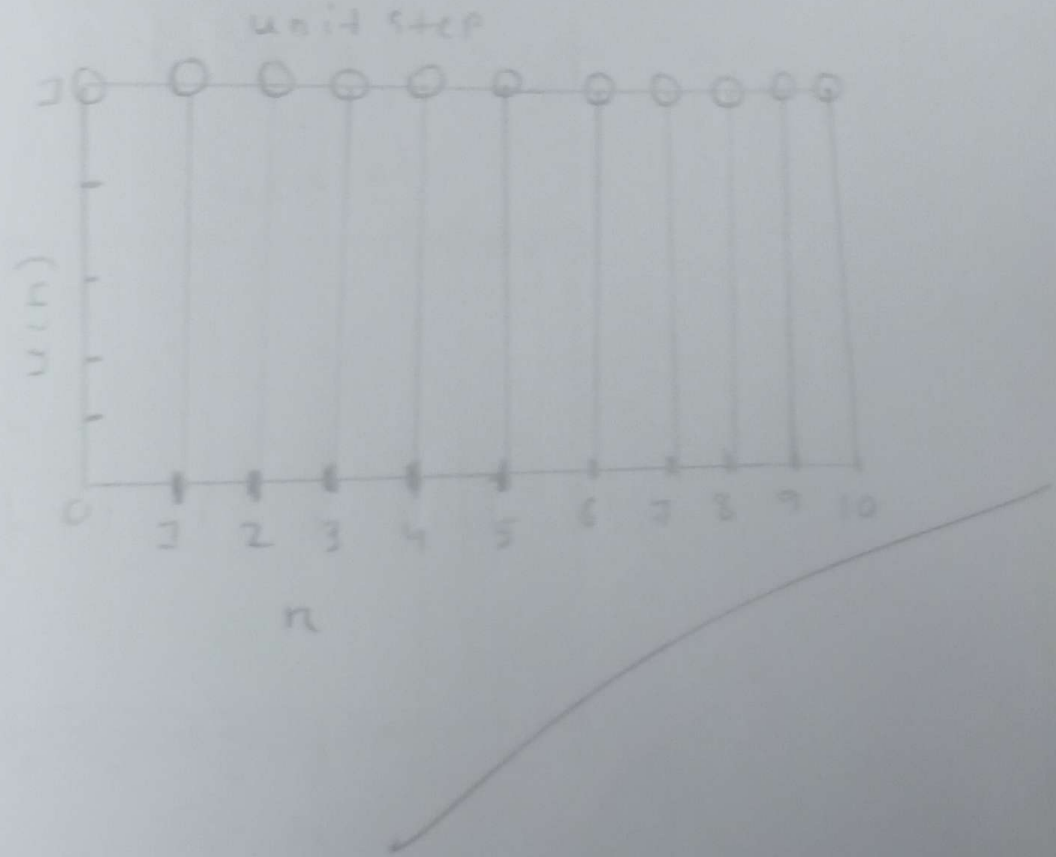
3. composite signal:

```
a1 = 2;
a2 = 3;
a3 = 4;
t = 0:0.001:1;
f1 = 2;
f2 = 8;
f3 = 20;
nt1 = a1 * sin(2 * pi * f1 * t)
nt2 = a2 * sin(2 * pi * f2 * t)
nt3 = a3 * sin(2 * pi * f3 * t).
nt = nt1 + nt2 + nt3;
plot(t, nt);
```



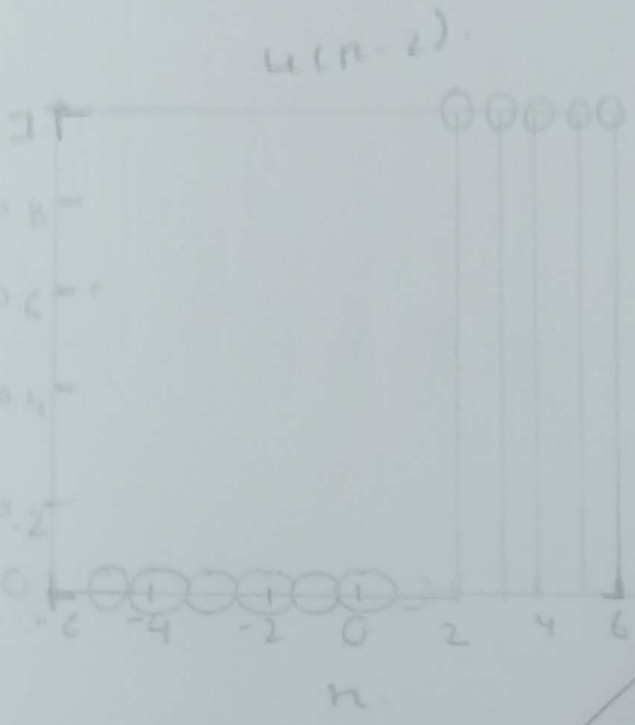
#unit step signal.

```
n = 0: 1 :10;
un = [ones(1,11)];
subplot(2,2,1);
stem(n,un);
title("unit-step signal");
x label("n");
y label("u(n)");
```



#u(n-2)

```
n=-5:1:5;
un1=[zeros(1,7),ones(1,4)];
subplot(2,2,2);
stem(n,un1);
title("u(n-2)");
xlabel("n");
ylabel("u(n-2)");
```



u(n) - u(n-2).

```
y = un - un1;
subplot(2,2,3);
stem(n, y);
title("U(n) - U(n-2)");
xlabel("U(n)");
ylabel("U(n-2)");
```

```
[un = [ones(1,6)];]
[un1 = [zeros(1,2), ones(1
```

from previous two