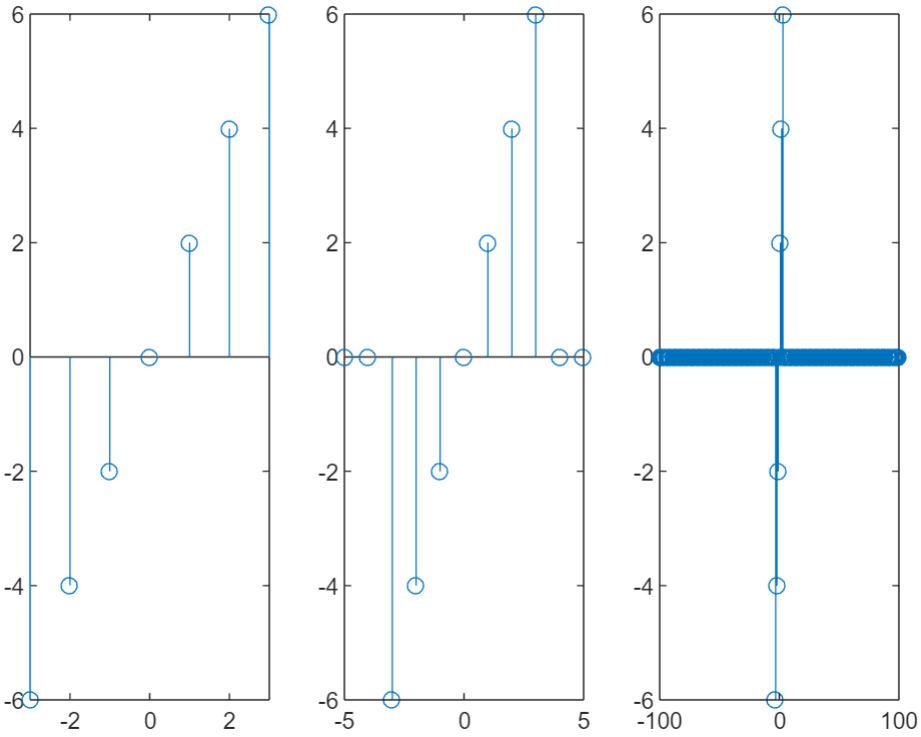
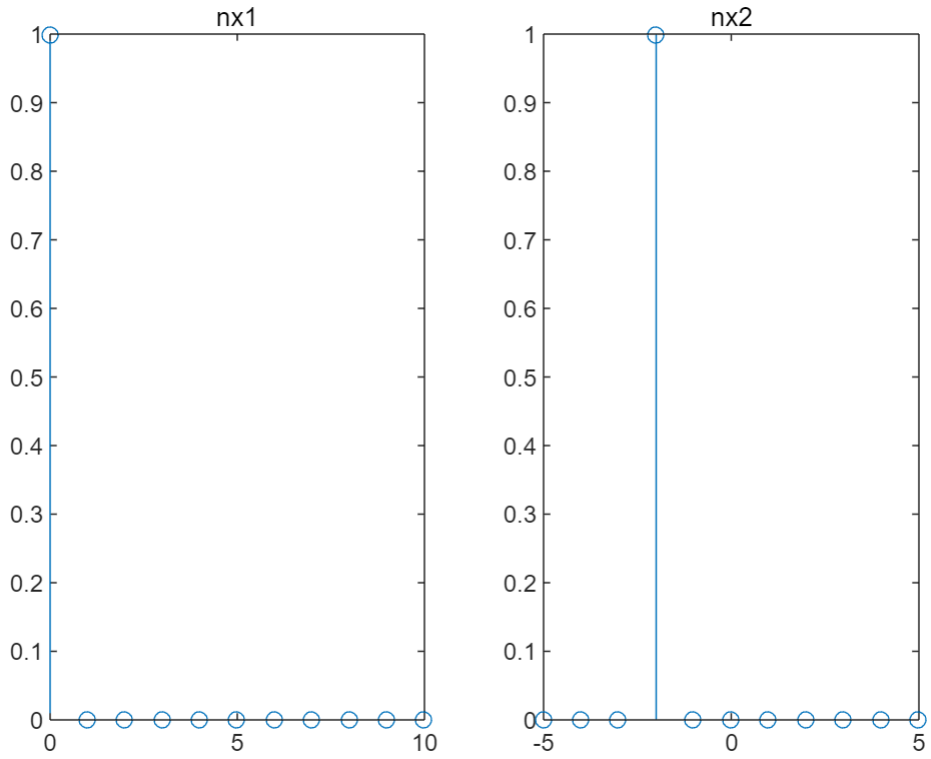
```
figure
n = -3:3;
x = 2*n;
x
```

```
x = 1×7
    -6    -4    -2     0     2     4     6
```

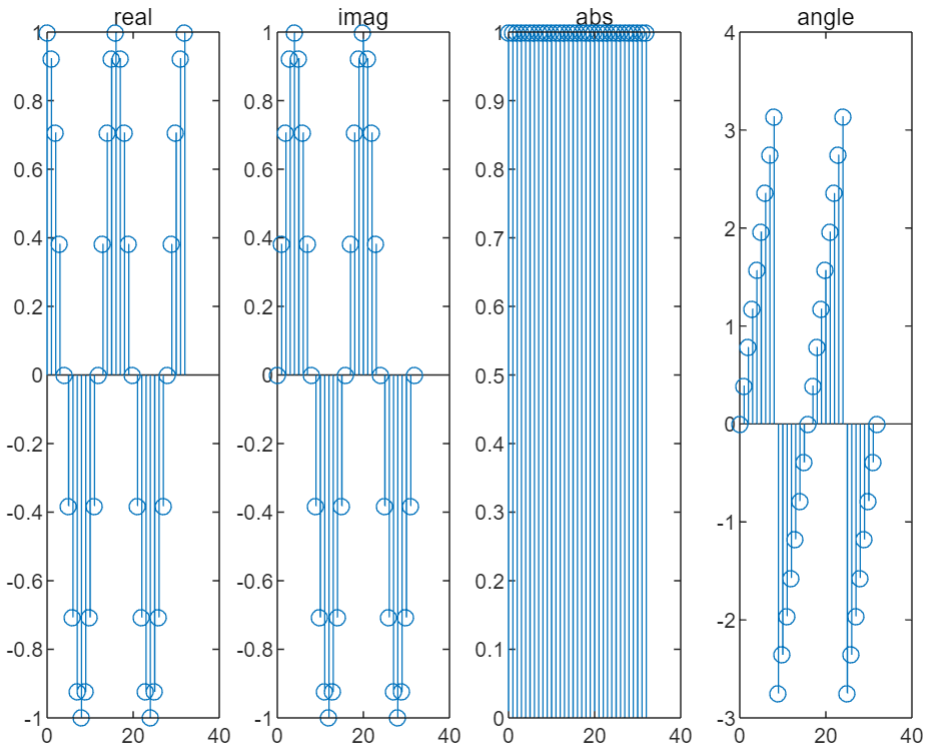
```
subplot(1,3,1),stem(n,x)
n = -5:5;
x = [0 0 x 0 0];%两侧填充 0
subplot(1,3,2),stem(n,x)
n = -100:100;
x = [zeros(1,95) x zeros(1,95)];
subplot(1,3,3),stem(n,x)
```



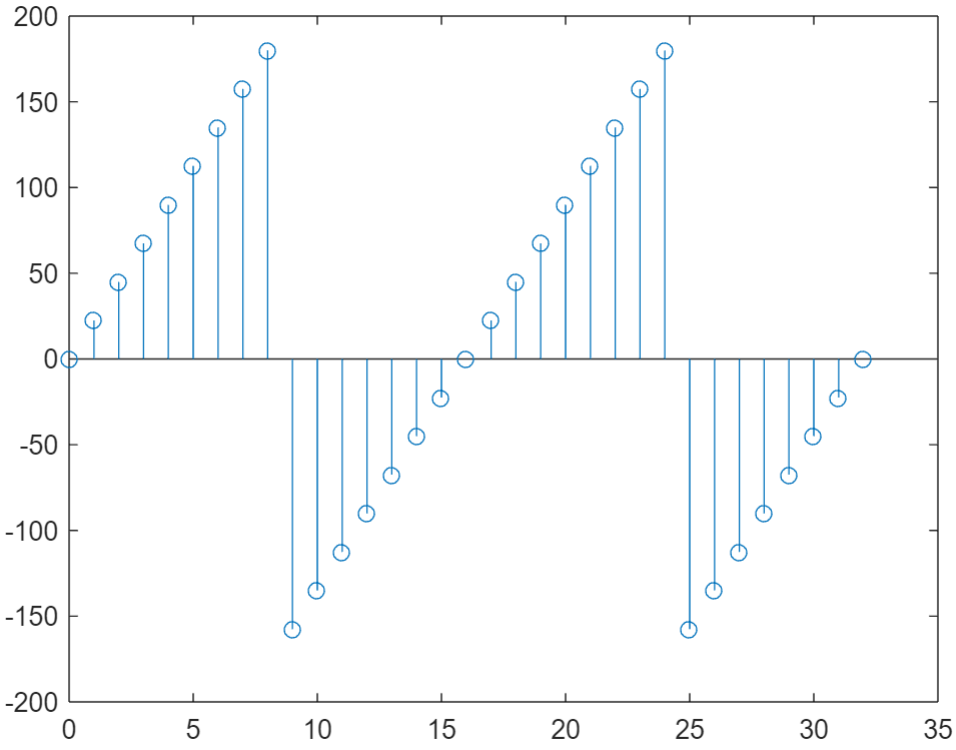

```
figure
nx1 = 0:10;
x1 = [1 zeros(1,10)];
subplot(1,2,1),stem(nx1,x1),title('nx1')
nx2 = -5:5;
x2 = [zeros(1,3) 1 zeros(1,7)];
subplot(1,2,2),stem(nx2,x2),title('nx2')
```




```
figure
n = 0:32;
x = exp(1i*n*pi/8);
subplot(1,4,1),stem(n,real(x)),title('real')
subplot(1,4,2),stem(n,imag(x)),title('imag')
subplot(1,4,3),stem(n,abs(x)),title('abs')
subplot(1,4,4),stem(n,angle(x)),title('angle')
```




```
figure
stem(n,angle(x)*(180/pi))
```



```
x1 = sin((pi/4)*[0:15]);
x1
```

```
x1 = 1×16
         0    0.7071    1.0000    0.7071    0.0000   -0.7071   -1.0000   -0.7071 ···
```

```
x2 = cos((pi/7)*[0:15]);
x2
```

```
x2 = 1×16
    1.0000    0.9010    0.6235    0.2225   -0.2225   -0.6235   -0.9010   -1.0000 ···
```

```
y1 = x1 + x2;
y1
```

```
y1 = 1×16
    1.0000    1.6081    1.6235    0.9296   -0.2225   -1.3306   -1.9010   -1.7071 ···
```

```
y2 = x1 - x2;
y2
```

```
y2 = 1×16
   -1.0000   -0.1939    0.3765    0.4846    0.2225   -0.0836   -0.0990    0.2929 ···
```

```
y3 = x1 .* x2;
y3
```

```
y3 = 1×16
         0    0.6371    0.6235    0.1573   -0.0000    0.4409    0.9010    0.7071 ···
```

```
y4 = x1 ./ x2;
y4
```

```
y4 = 1×16
         0    0.7848    1.6039    3.1777   -0.0000    1.1341    1.1099    0.7071 ···
```

```
y5 = 2 * x1;
y5
```

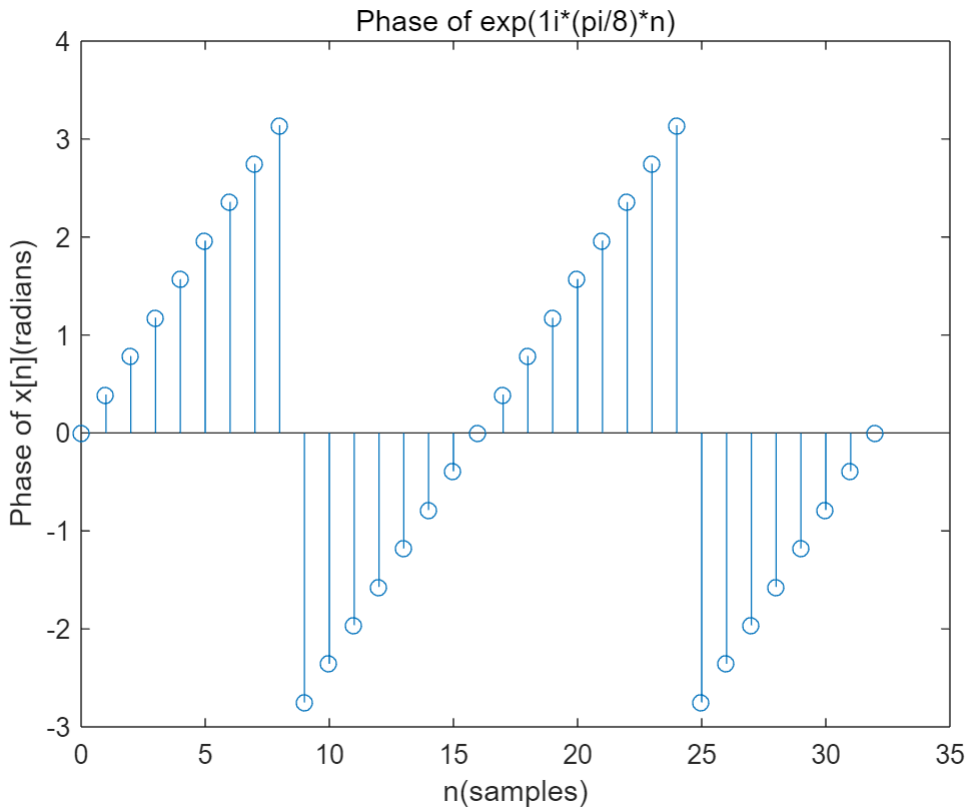
```
y5 = 1×16
         0    1.4142    2.0000    1.4142    0.0000   -1.4142   -2.0000   -1.4142 ···
```

```
y6 = x1 .^3;
y6
```

```
y6 = 1×16
         0    0.3536    1.0000    0.3536    0.0000   -0.3536   -1.0000   -0.3536 ···
```

```
n = 0:32;
x = exp(1i*(pi/8)*n);
figure
stem(n,angle(x))
title('Phase of exp(1i*(pi/8)*n)')
xlabel('n(samples)')
```

```
ylabel('Phase of x[n](radians)')
```



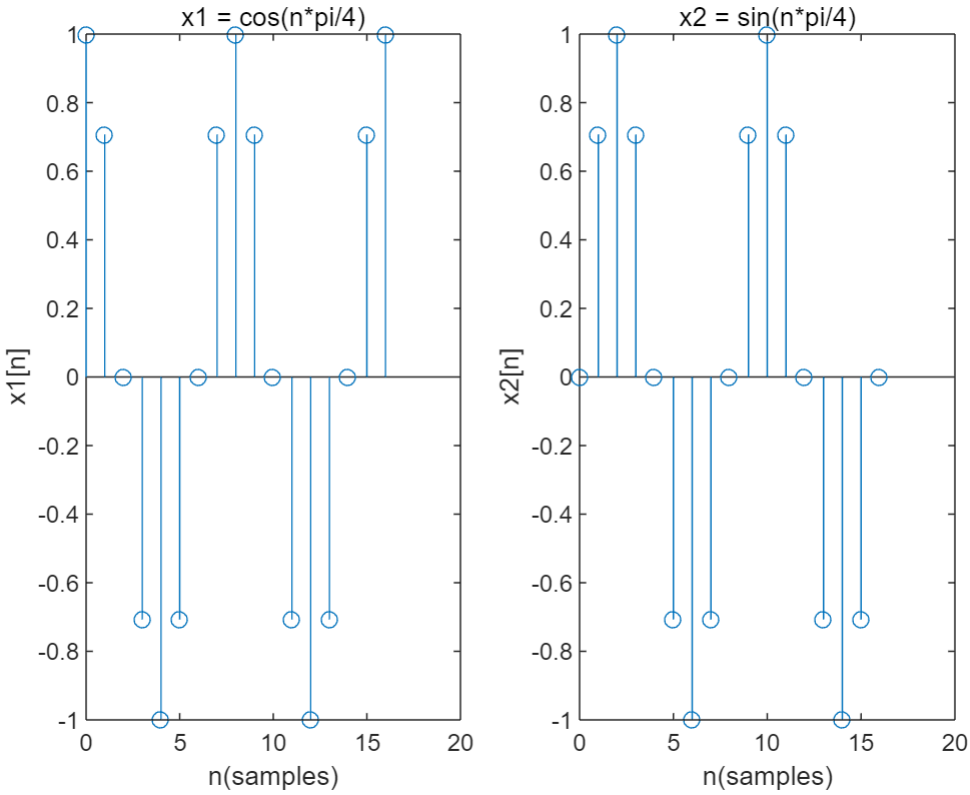

```
figure
n = 0:16;
x1 = cos(n*pi/4);
y1 = mean(x1);
y1
```

```
y1 = 0.0588
```

```
subplot(1,2,1),stem(n,x1)
title('x1 = cos(n*pi/4)')
xlabel('n(samples)')
ylabel('x1[n]')
n = 0:16;
x2 = sin(n*pi/4);
y2 = mean(x2);
y2
```

```
y2 = -6.1469e-17
```

```
subplot(1,2,2),stem(n,x2)
title('x2 = sin(n*pi/4)')
xlabel('n(samples)')
ylabel('x2[n]')
```


x1 = cos(n*pi/4)
x1[n]
n(samples)
x2 = sin(n*pi/4)
x2[n]
n(samples)

```
function A = sumMatrix1(rownumber,columnnumber)
    A = zeros(rownumber,columnnumber);
    for i = 1:rownumber
        for j = 1:columnnumber
            A(i,j) = i + j;
        end
    end
end
```

```
function [A,B] = sumMatrix2(rownumber,columnnumber)
    A = zeros(rownumber,columnnumber);
    B = zeros(rownumber,columnnumber);
    for i = 1:rownumber
        for j = 1:columnnumber
            A(i,j) = i + j;
            B(i,j) = i * j;
        end
    end
end
```

```
function [y,z] = foo(x)
y = 2*x;
z = (5/9)*(x-32);
end
```