```
n = [-3:3];
x = 2*n;
```

```
n = [-3:3]
```
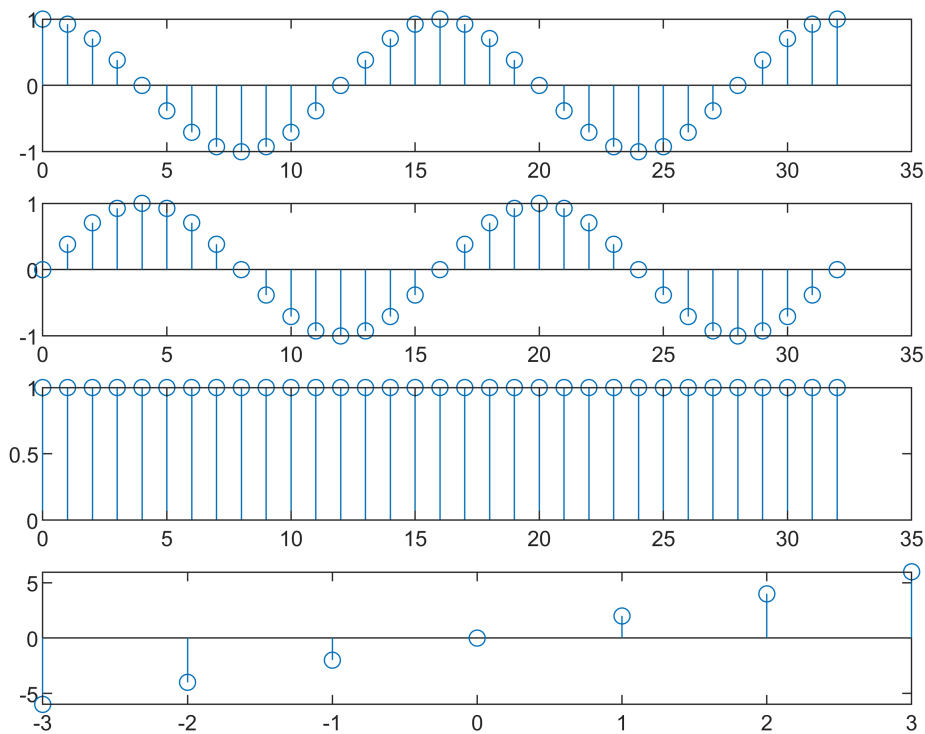
```
n = 1×7
    -3    -2    -1     0     1     2     3
```

```
x = 2*n
```

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

```
stem(n,x)
```



```
n = [-5:5]
```
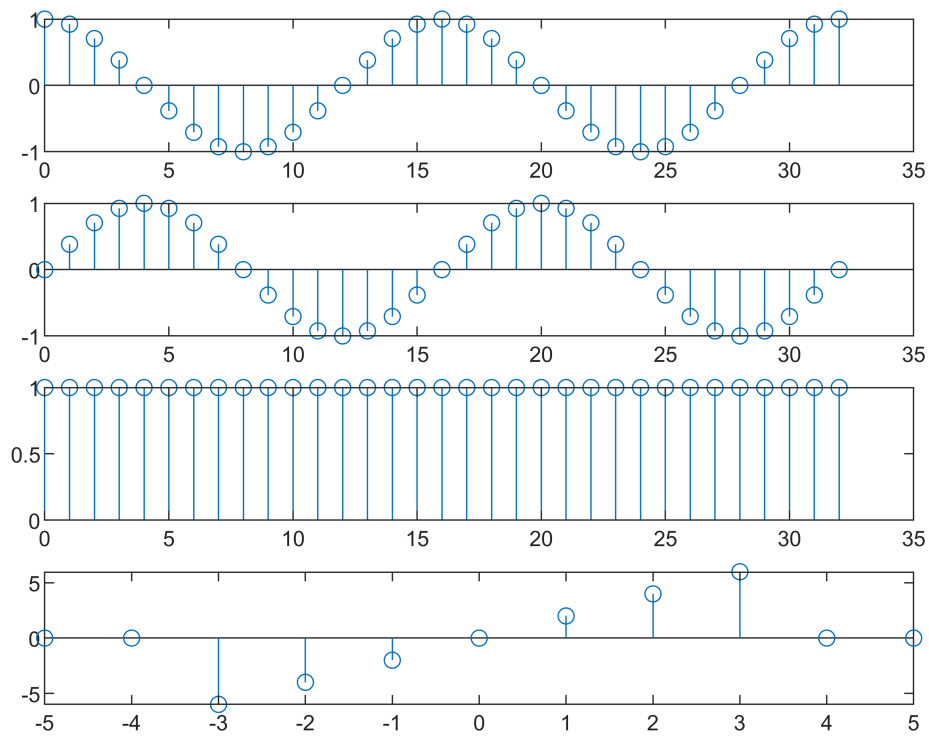
```
n = 1×11
    -5    -4    -3    -2    -1     0     1     2     3     4     5
```

```
x = [0 0 x 0 0]
```

```
x = 1×11
     0     0    -6    -4    -2     0     2     4     6     0     0
```
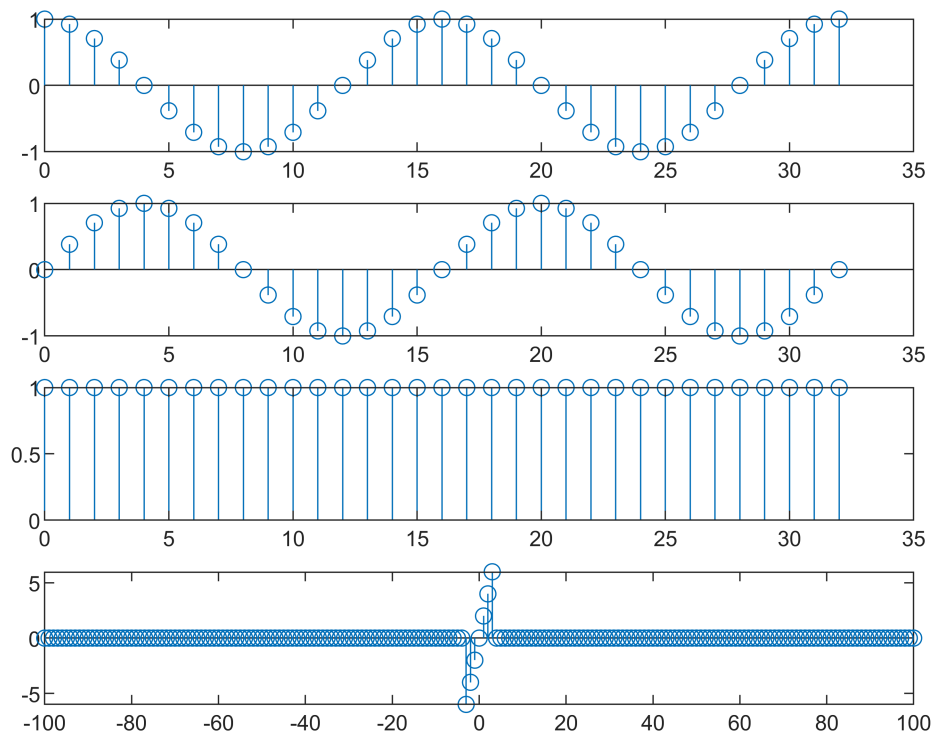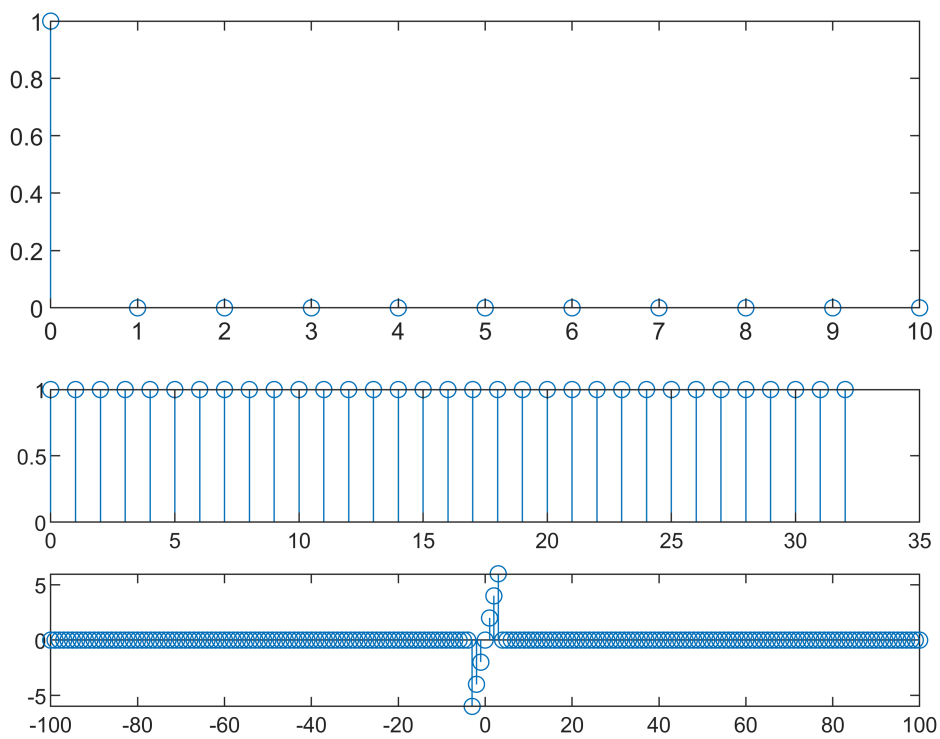
```
stem(n,x)
```



```
n = [-100:100]
```

```
n = 1×201
  -100   -99   -98   -97   -96   -95   -94   -93   -92   -91   -90   -89   -88 ···
```

```
x = [zeros(1,95) x zeros(1,95)];
stem(n,x)
```
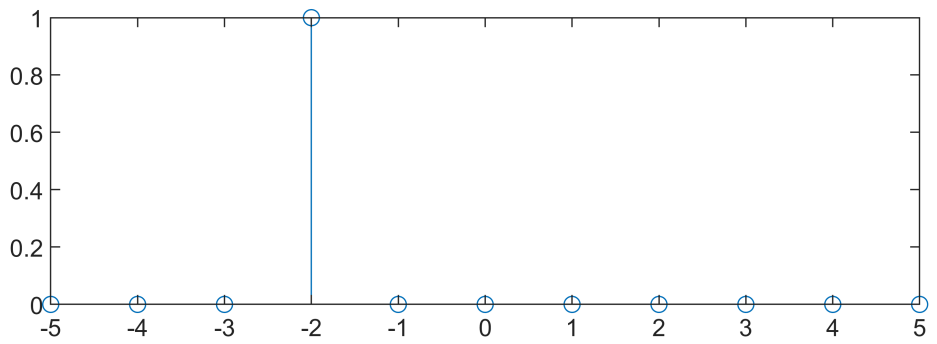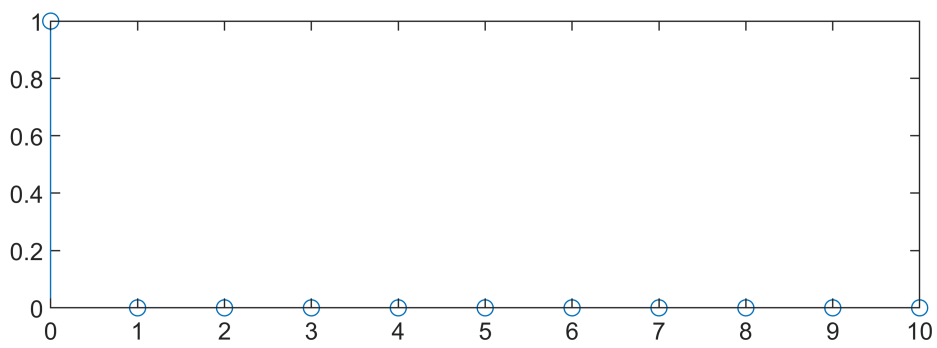
```
nx1 = [0:10];
x1 = [1 zeros(1, 10)];
subplot(2, 1, 1);    stem(nx1, x1);
```
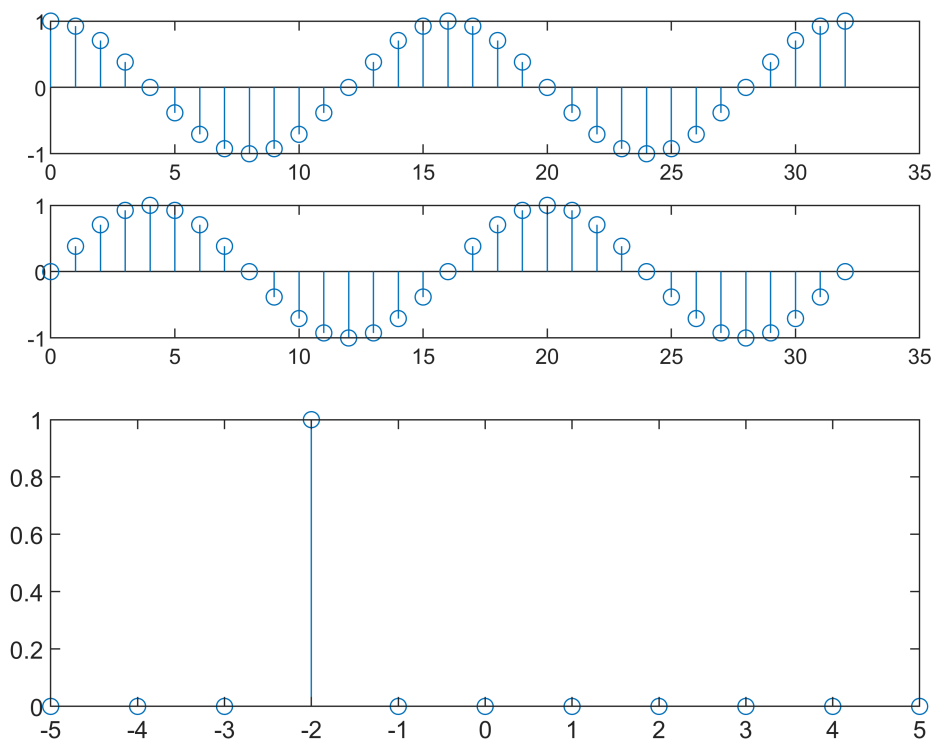
```
nx2 = [-5:5];
x2 = [zeros(1,3) 1 zeros(1,7)];
subplot(2, 1, 2);    stem(nx2, x2);
```
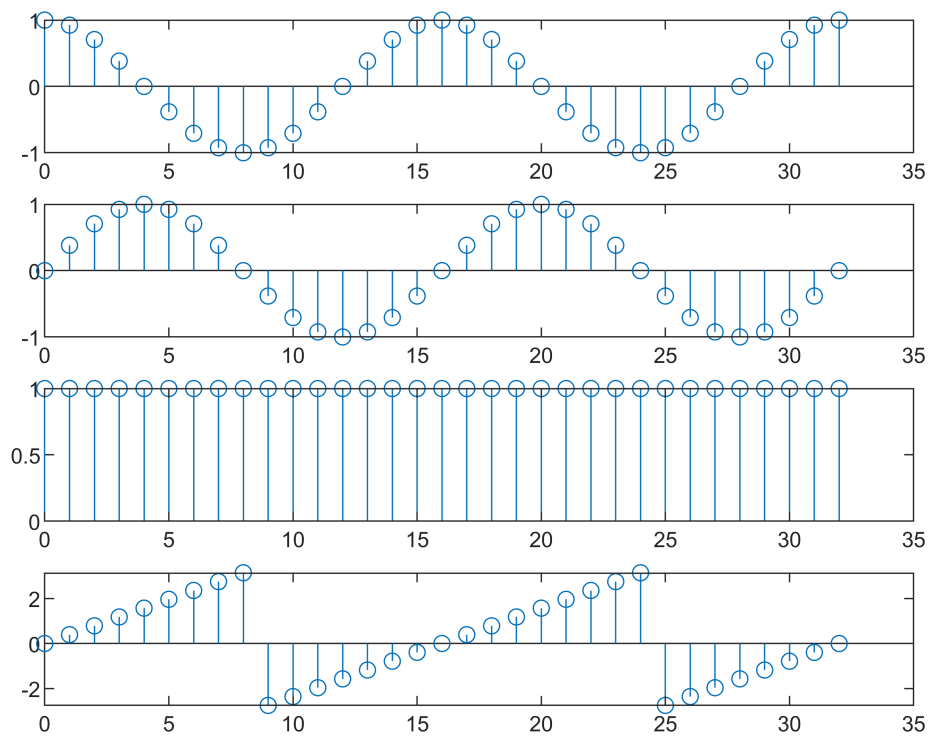
```
n = [0:32];
x = exp(j*(pi/8)*n);

subplot(4, 1, 1);   stem(n, real(x));
subplot(4, 1, 2);   stem(n, imag(x));
```
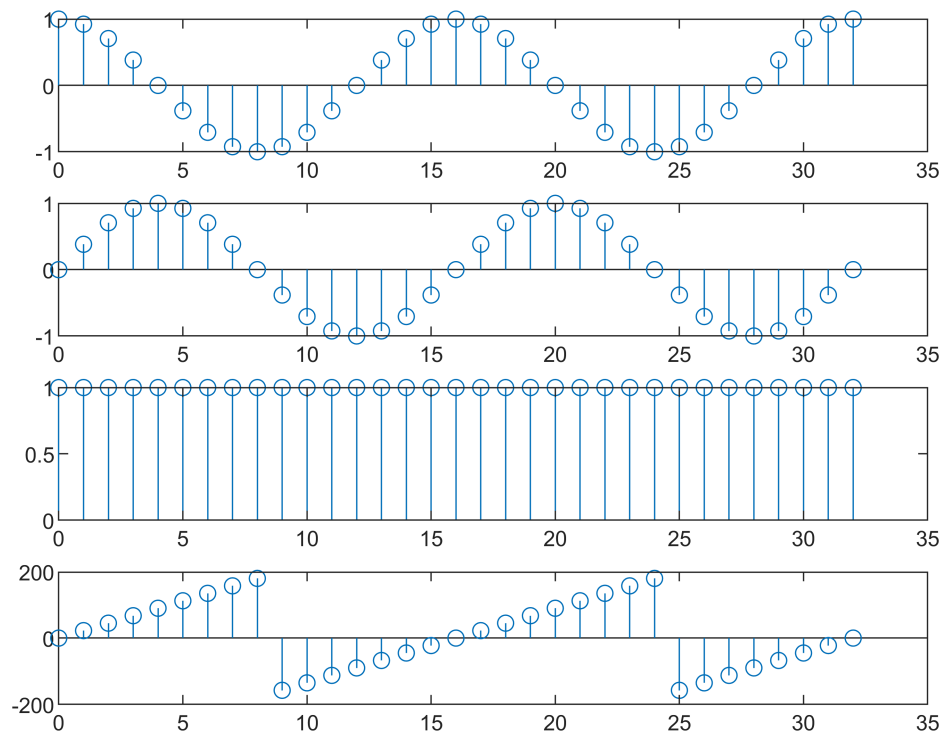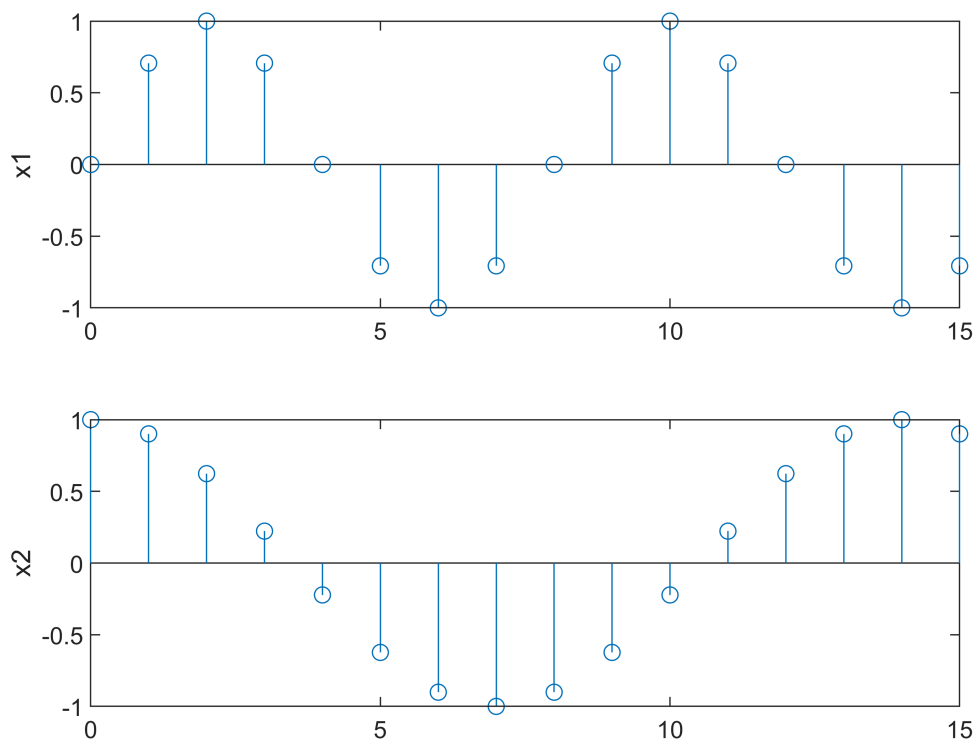
```
subplot(4, 1, 3);    stem(n, abs(x));
subplot(4, 1, 4);    stem(n, angle(x));
```

```
% To convert angle from radians to degrees
stem(n, angle(x)*(180/pi));
```
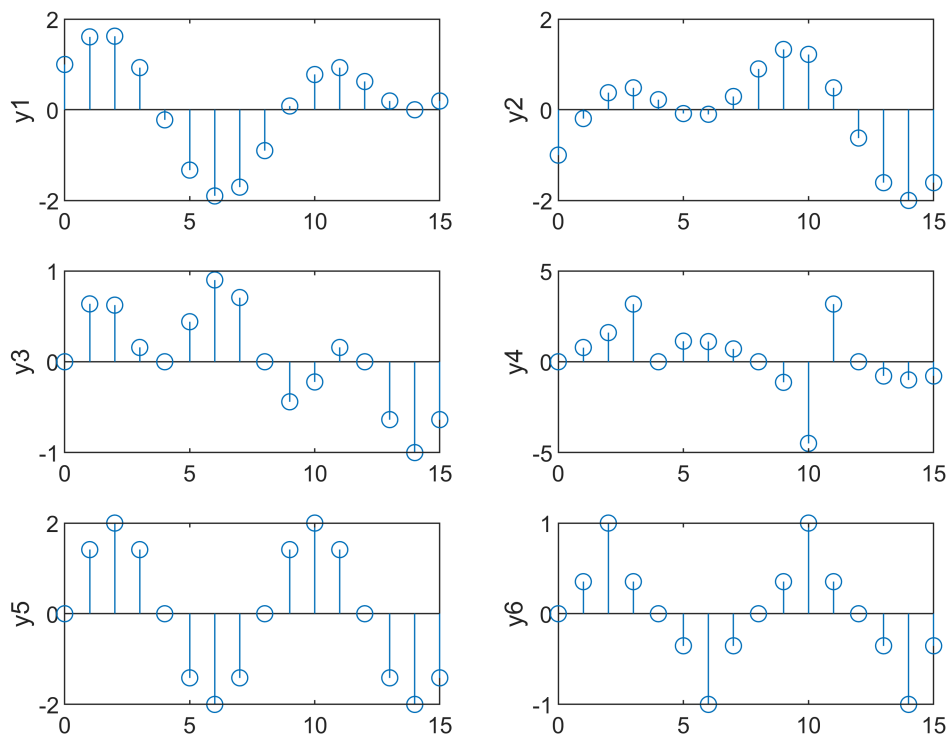


```
n = [0:15];
x1 = sin((pi/4)*[0:15]);
x2 = cos((pi/7)*[0:15]);
figure;
subplot(2, 1, 1);   stem(n,x1);    ylabel('x1');
subplot(2, 1, 2);   stem(n, x2);   ylabel('x2');
```

```
y1 = x1 + x2;
y2 = x1 - x2;
y3 = x1 .* x2;
y4 = x1./ x2;
y5 = 2 * x1;
y6 = x1 .^ 3;
figure;
subplot(3, 2, 1);   stem(n, y1);    ylabel('y1');
subplot(3, 2, 2);   stem(n, y2);    ylabel('y2');
subplot(3, 2, 3);   stem(n, y3);    ylabel('y3');
subplot(3, 2, 4);   stem(n, y4);    ylabel('y4');
subplot(3, 2, 5);   stem(n, y5);    ylabel('y5');
subplot(3, 2, 6);   stem(n, y6);    ylabel('y6');
```
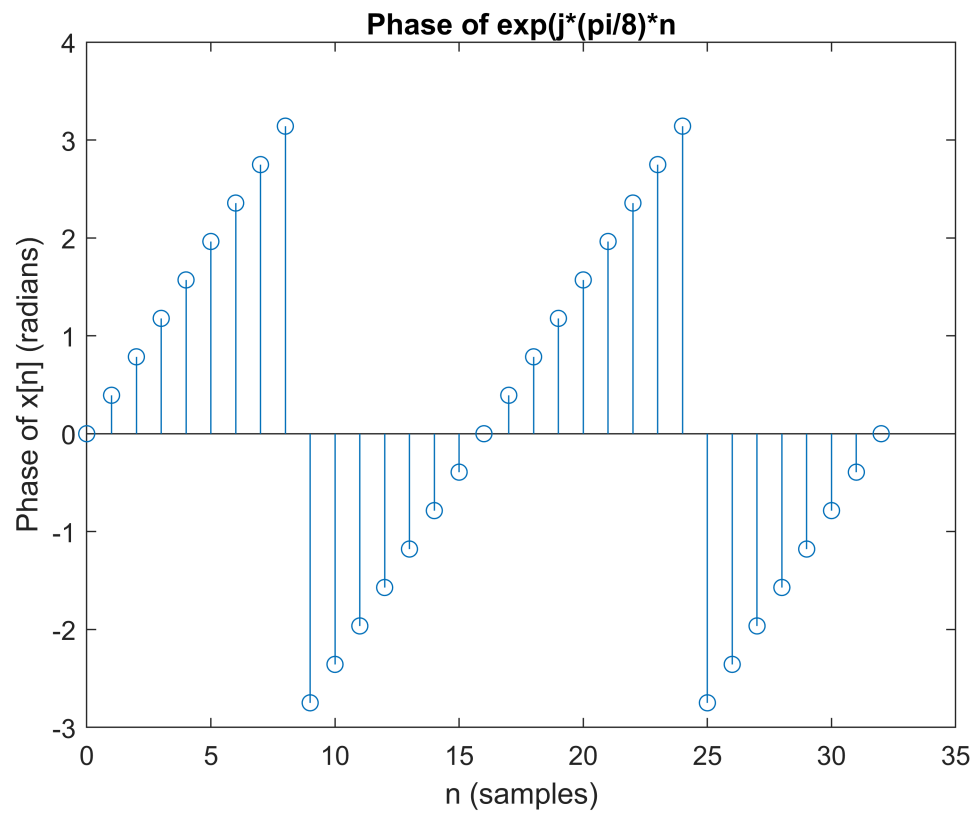
```
n = [0:32];
x = exp(j*(pi/8)*n);
figure;
stem(n, angle(x));
title('Phase of exp(j*(pi/8)*n');
xlabel('n (samples)');
ylabel('Phase of x[n] (radians)');
```

Phase of exp(j*(pi/8)*n)


```
[y,z] = foo(-40);
[y,z]= foo(212);
disp(y);
```

    424


```
disp(z);
```

    100


```
function[y,z] = foo(x)
% [y,z] = foo(x) ac cepts a numerical argument x and
% returns two arguments y and z, where y is 2*x
% and z is (5/9)*(x-32)
y = 2*x;
z = (5/9)*(x-32);
end
```