# Assignment 1

## 1 Question 1

A continuous time signal $x(t)$ is shown in Figure 1. Sketch and label carefully each of the following signals

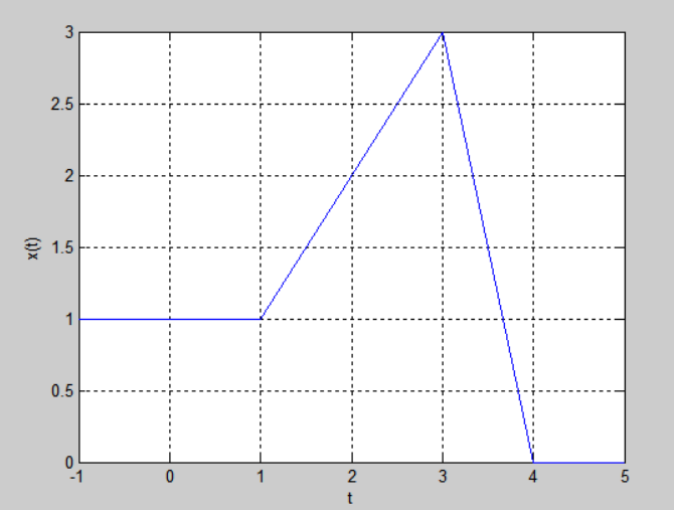


Figure 1: $x(t)$

1. $x(t-3)$ and $x(t+1)$
2. $x(-t)$, $x(2-t)$ and $x(-2-t)$
3. $x(2t)$, $2x(t)$ and $x(2t+1)$
4. $x(t/4)$ , $x(t/4+1)$ and $x(-t/4+2)$
5. $(x(t)+x(-t))u(t-1)$
6. $x(t)[\delta(t-3)+\delta(t+2)]$
7. write a Matlab code to draw the signal $x(t)$

8. Without constructing the signal again write a Matlab code to draw the signals 1.2.c and 1.5

# 2 Question 2

A discrete time signal $x[n]$ is shown in Figure 2 . Sketch and label carefully each of the following signals

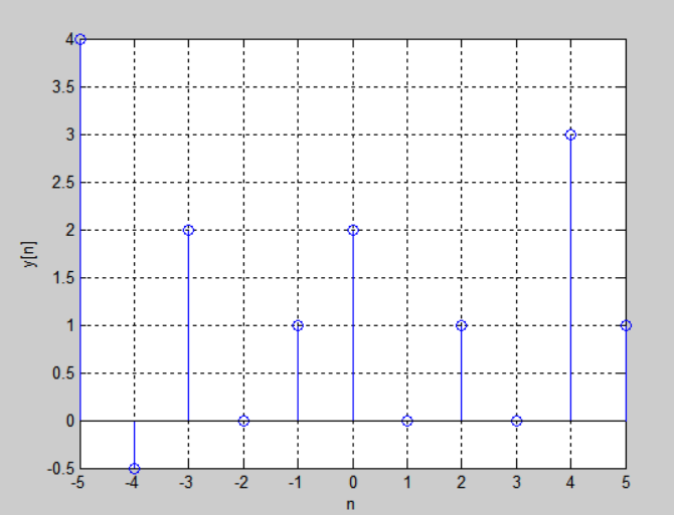


Figure 2: $x[n]$

1. $x[n+3]$
2. $x[-n]u[n]$
3. $x[n]u[-n]$
4. $x[2-n]u[n]$
5. $x[n-4]\delta[n-2]$
6. $x[n+1]\delta[n-2]$
7. write a Matlab code to draw the signal $x[n]$
8. Without constructing the signal again write a Matlab code to draw the signals 2.1 and 2.3

# 3 Question 3

Determine and sketch the even and odd parts of the signal depicted in Figure 3. And write a Matlab code to do the same.

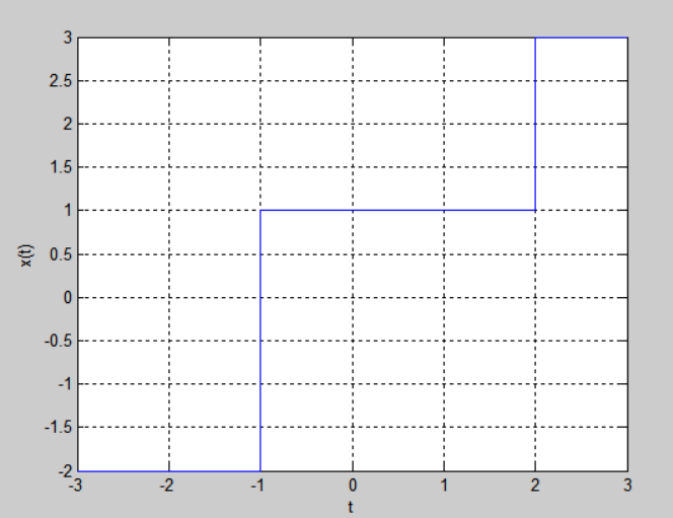


Figure 3: $x(t)$