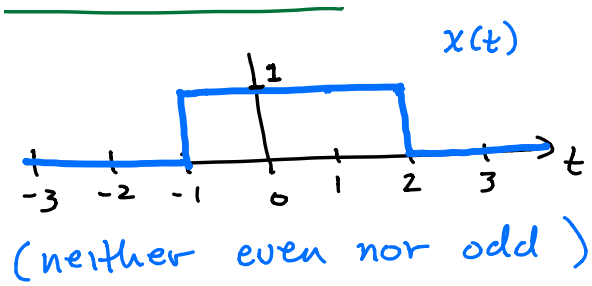
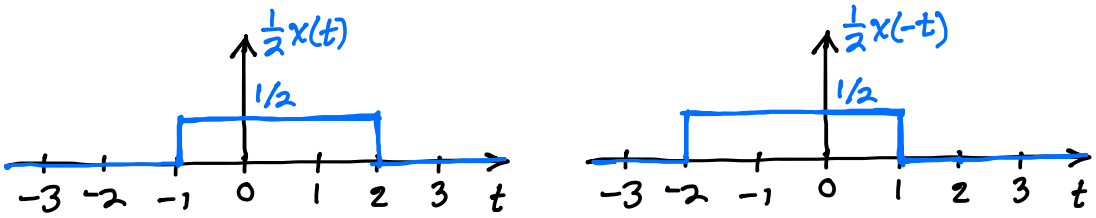
Example 1.2: Consider $x(t)$ shown below.

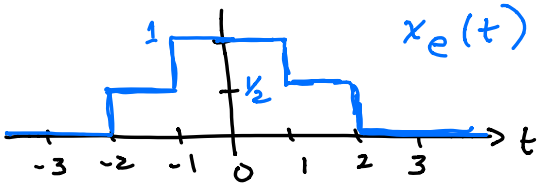


Draw the even and odd components, $x_e(t)$ and $x_o(t)$.

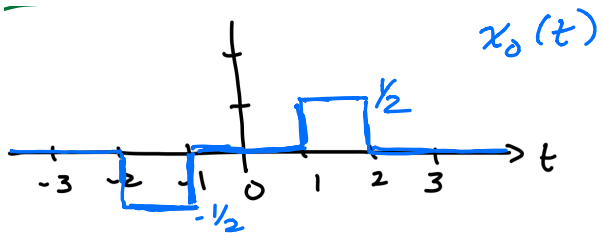
Solution: It is a good idea to make separate plots for $\frac{1}{2}x(t)$ and $\frac{1}{2}x(-t)$. Then, they can be added and subtracted to find $x_e(t)$ and $x_o(t)$.



By adding, we find $x_e(t) = \frac{1}{2}x(t) + \frac{1}{2}x(-t)$ as



By subtracting, we find $x_o(t) = \frac{1}{2}x(t) - \frac{1}{2}x(-t)$ as


$x_0(t)$
1/2
-1/2
t
-3
-2
-1
0
1
2
3