

$$y[n] = h[n-1] + h[n] + h[n+1]$$

$$y[-6] = h[-7] + h[-6] + h[-5] = 0$$

$$y[-5] = h[-6] + h[-5] + h[-4] = 1$$

$$y[-4] = h[-5] + h[-4] + h[-3] = 2$$

$$y[-3] = h[-4] + h[-3] + h[-2] = 2$$

$$y[-2] = h[-3] + h[-2] + h[-1] = 1$$

$$y[-1] = h[-2] + h[-1] + h[0] = 0$$

In this case $N_0 = -1$ $N_1 = 1$

$N_2 = -4$ $N_3 = -3$

$N_0 + N_2 = -5$ $N_1 + N_3 = -2$

Also, $y[n]$ is non-zero in $-5 \leq n \leq -2$.

Hence, the proof is also verified with an example.