

$$1 \quad 2 \quad \dots \quad j \quad \dots \quad N$$

The figure shows a 16x16 grid representing a discrete-time signal. The vertical axis is labeled 1, 2, ..., i, ..., N. The horizontal axis is labeled 1, 2, ..., j, ..., N. The grid contains a diagonal sequence of gray cells, indicating a signal value of 1 for all  $i = j$  and 0 otherwise. This represents a discrete-time unit impulse signal  $x[n] = \delta[n]$ .