

- ex3: to avoid using loops consider using matrix multiplication for ex 3
- ex5: Sum = 1 => blurred, sum = 0 => will have edges (approximation of 2nd derivative?)

$$\nabla^2 f(x, y) = \sum_{-\infty}^{\infty} \sum_{-\infty}^{\infty} c_{nm} * f(x - n, y - m)$$

- bonus: scipy correlate 2d

## Delta Function

- Theme 7
- P. 25 / (or 35)

## Special Signals

Continuous Delta Function

$$\delta(t) = \begin{cases} \infty & t = 0 \\ 0 & t \neq 0 \end{cases} \int_{-\infty}^{\infty} \delta(t) dt = 1$$

## Superpositions basis of delta-functions

$$x(n) = \sum_{k=-\infty}^{\infty} x(k) \delta(n - k)$$