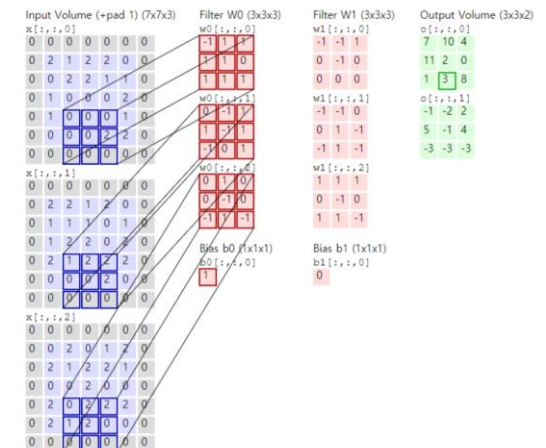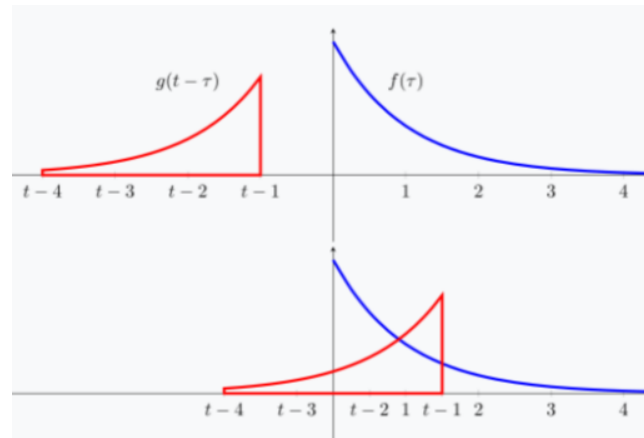# Summary Questions of the lecture

- Explain the concept of convolution sum and its meaning in the spatial and temporal applications.

→ Convolution is an operation on two functions, which is defined as the sum of the product of the two functions after one is reversed and shifted by the time index. The convolution result represents the degree of cross correlation between the two signals in view of local-in-time or local-in-space.

$$(f * g)[n] = \sum_{m=-\infty}^{\infty} f[m]g[n-m]$$

$$(f * g)[n] = \sum_{m=-\infty}^{\infty} f[n-m]g[m]$$

Summary Questions of the lecture

- What problems in the conventional Laplacian smoothness applications does the GCN try to solve?

→ GCN tries to mitigate the inefficiency arising from redundancy by high dimension of input data space via feature embedding in GCN and the dependency of the fixed graph structure via attentional aggregation or diffusion, etc. in graph.