Exercises on Basic Concepts of DIP

(Convolution)

1. For each two sequences, f[n1, n2] and h[n1,n2], sketch them and determine and sketch their convolution. Comment on your results. [Hint: embed f with zeros]
   1. f[n1,n2] = [(5,5,5,5,5), (5,0,0,0,5), (5,0,0,0,5), (5,0,0,0,5), (5,5,5,5,5)]

h[n1,n2]=[(1,1),(0,0)]

* 1. f[n1,n2] = [(5,5,5,5,5), (5,0,0,0,5), (5,0,0,0,5), (5,0,0,0,5), (5,5,5,5,5)]

h[n1,n2]=[(1,0),(1,0)]

* 1. f[n1,n2] = [(0,0,0,0,0), (0,0,0,0,0), (0,0,90,0,0), (0,0,0,0,0), (0,0,0,0,0)]

h[n1,n2]=(1/9)[(1,1,1),(1,1,1),(1,1,1)]

* 1. f[n1,n2] = [(0,0,0,5,5,5), (0,0,0,5,5,5), (0,0,0,5,5,5), (5,5,5,0,0,0), (5,5,5,0,0,0),(5,5,5,0,0,0)]

h[n1,n2]=[(1,1,1),(1,-8,1),(1,1,1)]

* 1. f[n1,n2] = [(0,0,0,0,0,5), (0,0,0,0,5,5), (0,0,0,5,5,5), (0,0,5,5,5,5), (0,5,5,5,5,5),(5,5,5,5,5,5)]

h[n1,n2]=[(0,0,1),(0,1,0),(1,0,0)]

* 1. f[n1,n2] = [(0,0,0,0,0,5), (0,0,0,0,5,5), (0,0,0,5,5,5), (0,0,5,5,5,5), (0,5,5,5,5,5),(5,5,5,5,5,5)]

h[n1,n2]=[(1,0,0),(0,1,0),(0,0,1)]