**Correlation**

1. Compute the auto-correlation of the following signal using direct and fast method.

X= {1, 0, 0, 1} (origin at first 1)

Hint {FFT of X is {2, 1+j, 0, 1-j}}

1. Compute the normalized cross-correlation r12 of these two periodic signals

X1= {2 1 0 0 3}

X2= {3 2 1 1 5}