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**Code:**

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**draw(x, y, col, column):** Draws a plot with input 'x', output 'y', color 'col' into 'column' subplot.

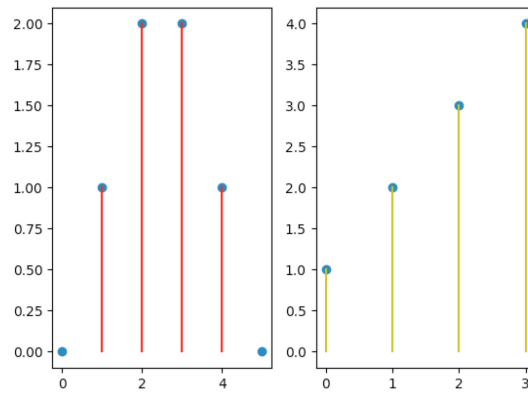
**standard\_deviation(x):** Returns standard derivative of list 'x'.

**standard\_normalize(x):** Performs standard normalization on list 'x' and returns a new list.

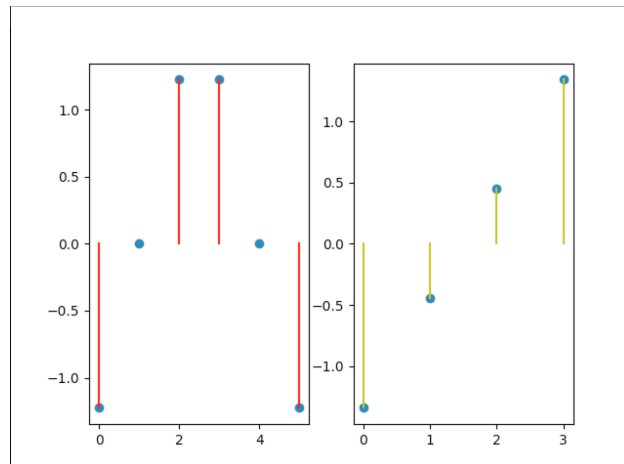
**convolution(a, b):** Return convolution of 'a' and 'b'.

# 1. Signal:

(functionA)



(functionB)

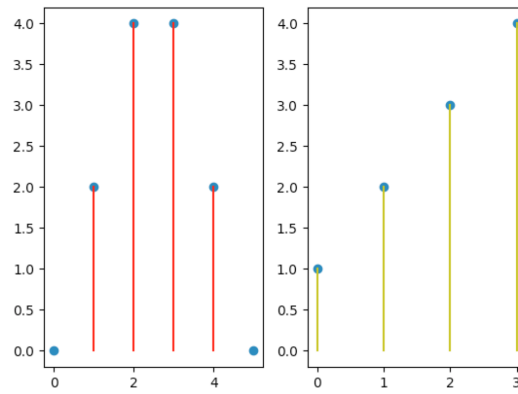


(functionC) [0, 1, 4, 9, 15, 16, 11, 4, 0]

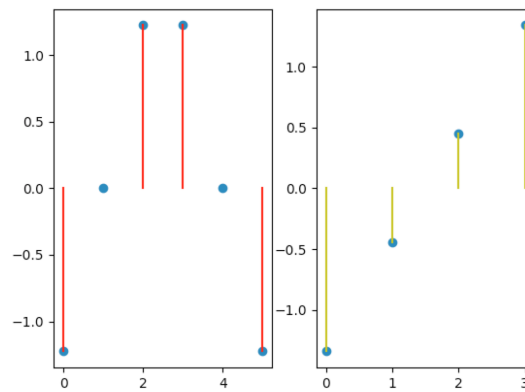
(functionD) [1.6431676725154982, 0.5477225575051661, -2.1908902300206643,  
-3.8340579025361627, 0.0, 3.8340579025361627, 2.1908902300206643, -0.5477225575051661,  
-1.6431676725154982]

## 2. Signal:

(functionA)



(functionB)



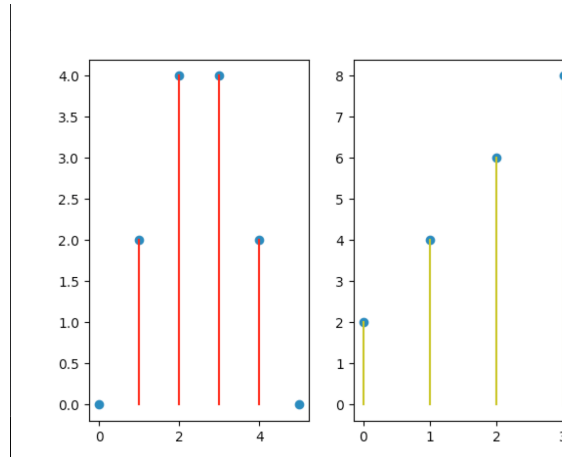
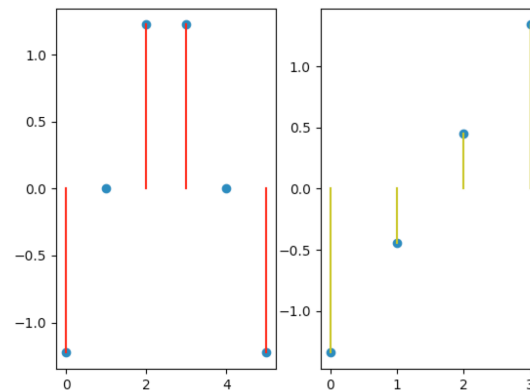
(functionC) [0, 2, 8, 18, 30, 32, 22, 8, 0]

(functionD) [1.6431676725154982, 0.5477225575051661, -2.1908902300206643,  
-3.8340579025361627, 0.0, 3.8340579025361627, 2.1908902300206643, -0.5477225575051661,  
-1.6431676725154982]

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**3. Signal:**


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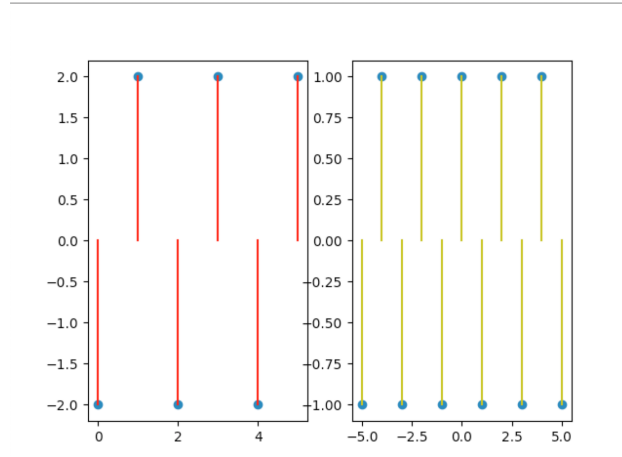
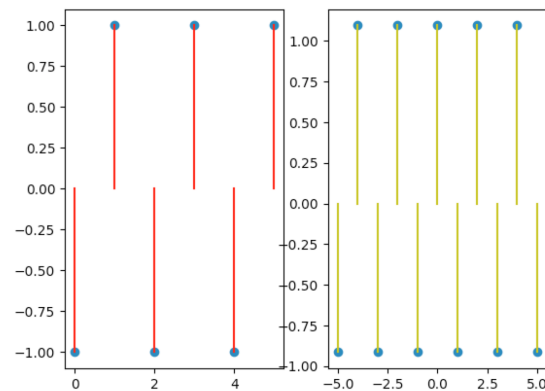
**(functionA)****(functionB)****(functionC)** [0, 4, 16, 36, 60, 64, 44, 16, 0]

**(functionD)** [1.6431676725154982, 0.5477225575051661, -2.1908902300206643,  
 -3.8340579025361627, 0.0, 3.8340579025361627, 2.1908902300206643, -0.5477225575051661,  
 -1.6431676725154982]

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**4. Signal:**


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**(functionA)****(functionB)****(functionC)** [2, -4, 6, -8, 10, -12, 12, -12, 12, -12, 12, -10, 8, -6, 4, -2]

**(functionD)** [0.9128709291752769, -2.008316044185609, 2.921186973360886, -4.016632088371218,  
 4.929503017546495, -6.024948132556828, 6.024948132556828, -6.024948132556828,  
 6.024948132556828, -6.024948132556828, 6.024948132556828, -4.929503017546495,  
 4.016632088371218, -2.921186973360886, 2.008316044185609, -0.9128709291752769]