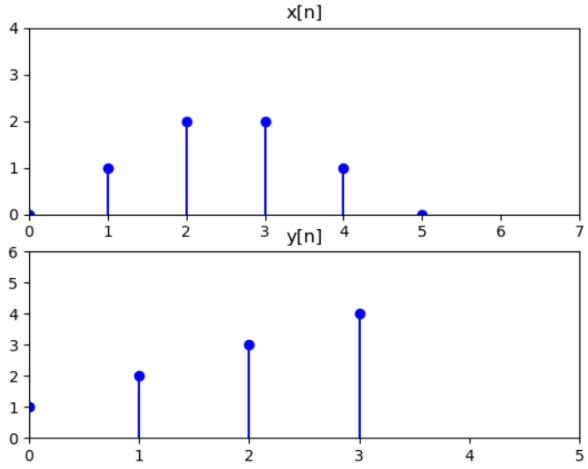
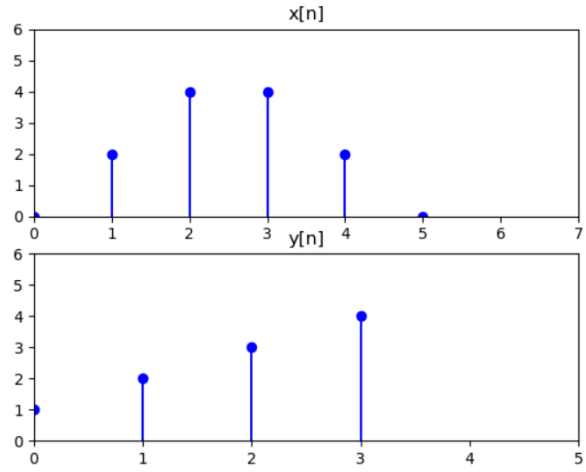
Seda SÜGÜR 150160130

## FunctionA Outputs

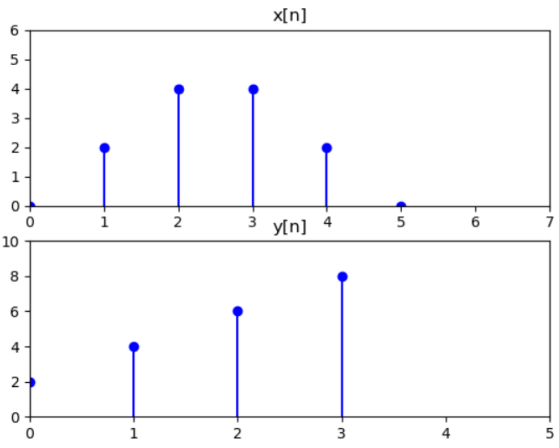
I used the sys.argv[] for reading the given inputs and plotted the data with matplotlib functions.



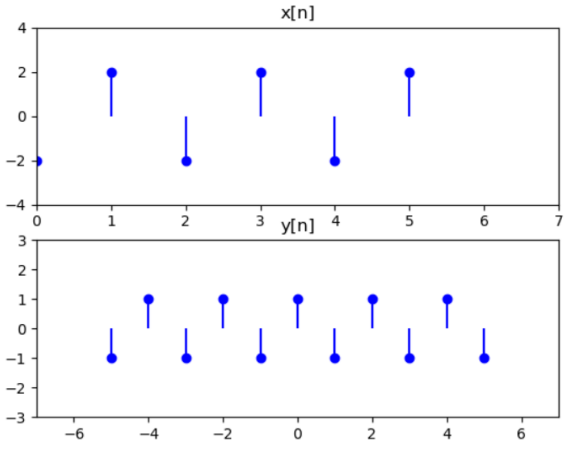

*Input 1*




*Input 2*



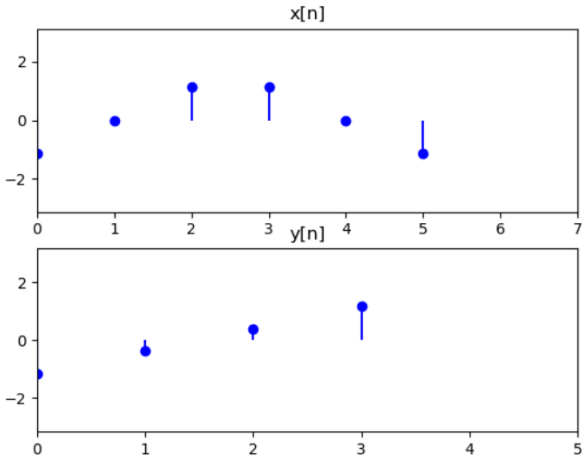

*Input 3*



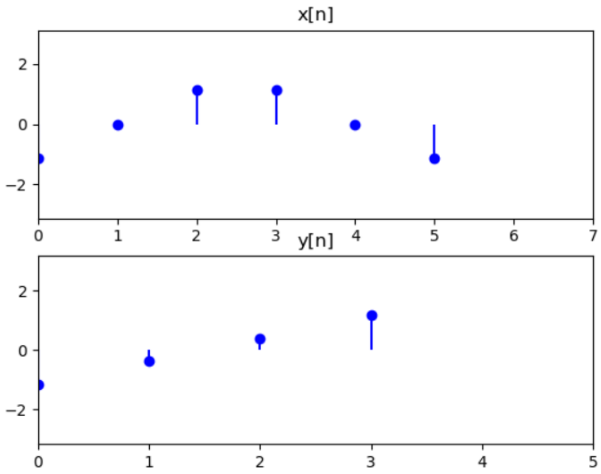

*Input 4*

## FunctionB Outputs

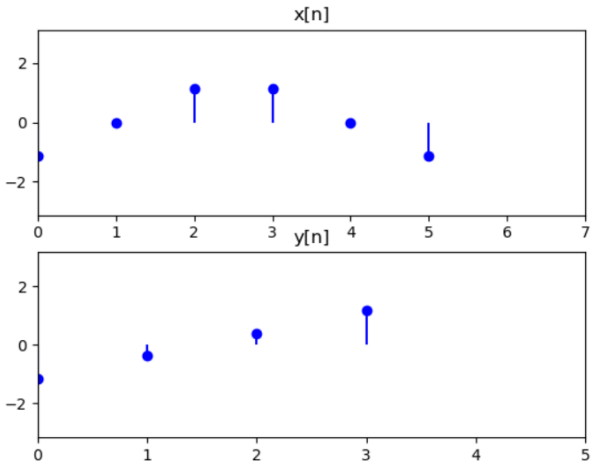
I used the sys.argv[] for reading the given inputs and i found the normalized form of the signals. Then i plotted the signal with using matplotlib functions.



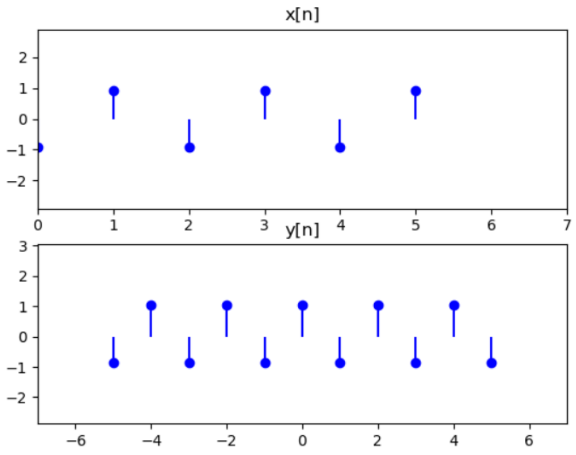

*Input 1*




*Input 2*




*Input 3*




*Input 4*

## FunctionC Outputs

I wrote the function of calculating the convolution of signals.

### Input 1

```
C:\Users\SEDA\Desktop>python functionC.py 0 5 0 3 0 1 2 2 1 0 1 2 3 4
[0, 1, 4, 9, 15, 16, 11, 4, 0]
```

### Input 2

```
C:\Users\SEDA\Desktop>python functionC.py 0 5 0 3 0 2 4 4 2 0 1 2 3 4
[0, 2, 8, 18, 30, 32, 22, 8, 0]
```

### Input 3

```
C:\Users\SEDA\Desktop>python functionC.py 0 5 0 3 0 2 4 4 2 0 2 4 6 8
[0, 4, 16, 36, 60, 64, 44, 16, 0]
```

### Input 4

```
C:\Users\SEDA\Desktop>python functionC.py 0 5 -5 5 -2 2 -2 2 -2 2 -1 1 -1 1 -1 1 -1 1 -1 1 -1
[2, -4, 6, -8, 10, -12, 12, -12, 12, -12, 12, -10, 8, -6, 4, -2]
```

## FunctionD Outputs

I used the sys.argv[] for reading the given inputs and i found the normalized form of the signals. Then i wrote the function of calculating the convolution of signals and i calculatted the convolution of standard normalized forms of the signals

### Input 1

```
C:\Users\SEDA\Desktop>python functionD.py 0 5 0 3 0 1 2 2 1 0 1 2 3 4
[1.299038105676658, 0.43301270189221935, -1.7320508075688774, -3.0310889132455356, 0.0, 3.0310889132455356,
 1.7320508075688774, -0.43301270189221935, -1.299038105676658]
```

### Input 2

```
C:\Users\SEDA\Desktop>python functionD.py 0 5 0 3 0 2 4 4 2 0 1 2 3 4
[1.299038105676658, 0.43301270189221935, -1.7320508075688774, -3.0310889132455356, 0.0, 3.0310889132455356,
 1.7320508075688774, -0.43301270189221935, -1.299038105676658]
```

### Input 3

```
C:\Users\SEDA\Desktop>python functionD.py 0 5 0 3 0 2 4 4 2 0 2 4 6 8
[1.299038105676658, 0.43301270189221935, -1.7320508075688774, -3.0310889132455356, 0.0, 3.0310889132455356,
 1.7320508075688774, -0.43301270189221935, -1.299038105676658]
```

### Input 4

```
C:\Users\SEDA\Desktop>python functionD.py 0 5 -5 5 -2 2 -2 2 -2 2 -1 1 -1 1 -1 1 -1 1 -1 1 -1
[0.7945521577046604, -1.748014746950253, 2.5425669046549135, -3.496029493900506, 4.290581651605167, -5.244044240850759,
5.2440442408507595, -5.244044240850759, 5.2440442408507595, -5.244044240850759, 5.2440442408507595, -4.290581651605167,
3.4960294939005063, -2.5425669046549135, 1.748014746950253, -0.7945521577046604]
```