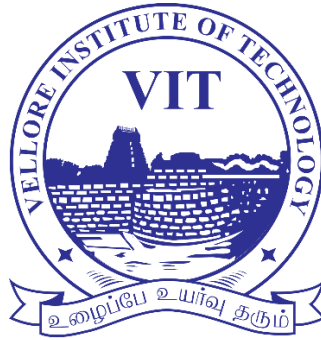


**LAB TASK-4**  
**DIGITAL SIGNAL PROCESSING**



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**OBJECTIVE:**

To obtain circular convolution between signals .

**ALGORITHM:**

1. Take input of two signals and form a matrix of these signals
2. Add them diagonally
3. Plot

**CODE:**

```
clc;
close all;
x=input('Enter x(n):\n');
h=input('Enter h(n):\n');
m=length(x);%length of sequence x(n)
n=length(h);%length of sequence h(n)
N=max(m,n);%length of output sequence y(n)
%For equating both sequence length
x=[x,zeros(1,N-m)];
h=[h,zeros(1,N-n)];
for n=1:N
    Y(n)=0;
    for i=1:N
        j=n-i+1;
        if(j<=0)
            j=N+j;
        end
        Y(n)=[Y(n)+x(i)*h(j)];
    end
end
n=0:N-1;%Range of all Sequences
subplot(311)
disp('First Sequence x(n) is:')
disp(x)
stem(n,x)
xlabel('n')
```

```

ylabel('x(n)')
title('First Sequence')
grid on;
subplot(312)
disp('Second Sequence h(n) is:')
disp(h)
stem(n,h)
xlabel('n')
ylabel('h(n)')
title('Second Sequence')
grid on;
subplot(313)
disp('Convolute Sequence Y(n) is:')
disp(Y)
stem(n,Y)
xlabel('n')
ylabel('Y(n)')
title('Circular Convolute Sequence')
grid on;

```

### RESULT:

```

Enter x(n):
[2 3 4 5]
Enter h(n):
[8 9 10 11]
First Sequence x(n) is:
      2      3      4      5

Second Sequence h(n) is:
      8      9     10     11

Convolute Sequence Y(n) is:
    134    136    134    128

>> |

```

