
```

clc;
close all;
clear all;

x = [1,2,3,4];
h = [2,1,2,1];

M = length(x);
N = length(h);

L = max(M,N);
x = [x, zeros(1,L-M)];
h = [h, zeros(1,L-N)];

H = cirmat(N,h);
Y = H * transpose(x);
y = cconv(x,h);

x1 = zeros(1,10);
h = [h,zeros(1,length(x1)-N)];

for i=1:10
    x1(i) = 0.5^(i-1);
end

H1 = cirmat(10,h);
Y1 = (H1*transpose(x1));
y1 = cconv(x1,h,length(x1));

display(H);
display(Y);
display(y);

display(H1);
display(Y1);
display(y1);

```

$H =$

2	0	2	1
1	2	0	2
2	1	2	0
1	2	1	2

$Y =$

12
13
10
16

$Y =$

2.0000	5.0000	10.0000	16.0000	12.0000	11.0000	4.0000
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$H1 =$

2	0	0	0	0	0	0	1	2	1
1	2	0	0	0	0	0	0	1	2
2	1	2	0	0	0	0	0	0	1
1	2	1	2	0	0	0	0	0	0
0	1	2	1	2	0	0	0	0	0
0	0	1	2	1	2	0	0	0	0
0	0	0	1	2	1	2	0	0	0
0	0	0	0	1	2	1	2	0	0
0	0	0	0	0	1	2	1	2	0
0	0	0	0	0	0	1	2	1	2

$Y1 =$

2.0176
2.0078
3.0020
2.5000
1.2500
0.6250
0.3125
0.1562
0.0781
0.0391

$y1 =$

Columns 1 through 7

2.0176	2.0078	3.0020	2.5000	1.2500	0.6250	0.3125
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Columns 8 through 10

0.1563	0.0781	0.0391
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