%Name: Atharva Deshpande

%Roll. no: 32116

clc

clear all;

prompt = 'Enter xn';

xn = input(prompt);

prompt = 'Enter hn';

hn = input(prompt);

N=max(length(xn),length(hn));

hn = fliplr(hn);

hn = circshift(hn,[0 1]);

n=N;

mat = hn;

for i=1:N-1

hn1 = circshift(hn,[0,i]);

mat = [mat;hn1];

n=n-1;

end

display(mat);

display(xn');

answ = mat \* (xn');

display(answ');

Output:

Enter xn[1 2 3 4]

Enter hn[1 1 0 0]

mat =

1 0 0 1

1 1 0 0

0 1 1 0

0 0 1 1

ans =

5 3 5 7