#include<stdio.h>

int m,n,x[30],h[30],y[30],i,j, k,x2[30],a[30];

void main()

{

printf("\n Enter the length of the first sequence = ");

scanf("%d",&m);

printf("\n Enter the length of the second sequence = ");

scanf("%d",&n);

printf("\nEnter the first sequence = ");

for(i=0;i<m;i++)

scanf("%d",&x[i]);

printf("\nEnter the second sequence = ");

for(j=0;j<n;j++)

scanf("%d",&h[j]);

if(m-n!=0) /\*If length of both sequences are not equal\*/

{

if(m>n) /\* Pad the smaller sequence with zero\*/

{

for(i=n;i<m;i++)

h[i]=0;

n=m;

}

for(i=m;i<n;i++)

x[i]=0;

m=n;

}

y[0]=0;

a[0]=h[0];

for(j=1;j<n;j++) /\*folding h(n) to h(-n)\*/

a[j]=h[n-j]; /\*Circular convolution\*/

for(i=0;i<n;i++)

y[0]+=x[i]\*a[i];

for(k=1;k<n;k++)

{

y[k]=0; /\*circular shift\*/

for(j=1;j<n;j++)

x2[j]=a[j-1];

x2[0]=a[n-1];

for(i=0;i<n;i++)

{

a[i]=x2[i];

y[k]+=x[i]\*x2[i];

}

}

/\*displaying the result\*/

printf(" \nThe circular convolution = ");

for(i=0;i<n;i++)

printf("%d \t",y[i]);

}