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/* program to implement circular convolution */

#include<stdio.h>

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

void main()
{
	printf(" enter the length of the first sequence\n");
	scanf("%d",&m);
	printf(" enter the length of the second sequence\n");
	scanf("%d",&n);

	printf(" enter the first sequence\n");
	for(i=0;i<m;i++)
		scanf("%d",&x[i]);

	printf(" enter the second sequence\n");
	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++)
		{
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                        a[i]=x2[i];
                        y[k]+=x[i]*x2[i];
                }
        }

        /*displaying the result*/
        printf(" the circular convolution is\n");
        for(i=0;i<n;i++)
                printf("%d \t",y[i]);
}
```