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#include<stdio.h>

int main(){

    int a[2][2],b[2][2],c[2][2],i,j;

    int m1,m2,m3,m4,m5,m6,m7;

    printf("Enter the 4 elements of first matrix: ");

    for(i=0;i<2;i++)

        for(j=0;j<2;j++)

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

    printf("Enter the 4 elements of second matrix: ");

    for(i=0;i<2;i++)

        for(j=0;j<2;j++)

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

    printf("\nThe first matrix is\n");

    for(i=0;i<2;i++){

        printf("\n");

        for(j=0;j<2;j++)

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

    }

    printf("\nThe second matrix is\n");

    for(i=0;i<2;i++){

        printf("\n");

        for(j=0;j<2;j++)

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

    }

    m1= (a[0][0] + a[1][1])*(b[0][0]+b[1][1]);

    m2= (a[1][0]+a[1][1])*b[0][0];

    m3= a[0][0]*(b[0][1]-b[1][1]);

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m4= a[1][1]*(b[1][0]-b[0][0]);

m5= (a[0][0]+a[0][1])*b[1][1];

m6= (a[1][0]-a[0][0])*(b[0][0]+b[0][1]);

m7= (a[0][1]-a[1][1])*(b[1][0]+b[1][1]);


c[0][0]=m1+m4-m5+m7;

c[0][1]=m3+m5;

c[1][0]=m2+m4;

c[1][1]=m1-m2+m3+m6;


printf("\nAfter multiplication using \n");

for(i=0;i<2;i++){

    printf("\n");

    for(j=0;j<2;j++)

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

}


return 0;

}

```

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Enter the 4 elements of first matrix: 1
2
3
4
Enter the 4 elements of second matrix: 1
2
3
4

The first matrix is
1    2
3    4
The second matrix is
1    2
3    4
After multiplication using
7    10
15   22
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Process exited after 10.78 seconds with return value 0
Press any key to continue . . .

```