

MULTIPLY TWO 2-D ARRAYS

```
        /****      Program to Multiply Two 2-D Arrays      ****/  
  
#include <stdio.h>  
  
void multiply();  
  
int a[10][10], b[10][10], c[10][10], m, n, x, y;  
  
main()  
{  
    int i, j;  
  
    printf("\nEnter number of rows & cols of array A: ");  
    scanf("%d%d", &m, &n);  
  
    printf("\nEnter elements of array A:\n");  
    for(i=0; i<m; i++)  
        for(j=0; j<n; j++)  
            scanf("%d", &a[i][j]);  
  
    printf("\nEnter number of rows & cols of array B: ");  
    scanf("%d%d", &x, &y);  
  
    printf("\nEnter elements of array B:\n");  
    for(i=0; i<x; i++)  
        for(j=0; j<y; j++)  
            scanf("%d", &b[i][j]);  
  
    printf("\n\nArray A:\n\n");  
    for(i=0; i<m; i++)  
    {  
        for(j=0; j<n; j++)  
            printf("\t%d", a[i][j]);  
        printf("\n\n");  
    }  
  
    printf("\n\nArray B:\n\n");  
    for(i=0; i<x; i++)  
    {  
        for(j=0; j<y; j++)  
            printf("\t%d", b[i][j]);  
        printf("\n\n");  
    }  
}
```

```
multiply();

printf("\n\nArray after multiplication:\n\n");
for(i=0; i<m; i++)
{
    for(j=0; j<y; j++)
        printf("\t%d", c[i][j]);
    printf("\n\n");
}
getch();
}

void multiply()
{
    int i, j, k;

    if(m != y || n != x)
    {
        printf("\n\nMultiplication is not possible.");
        exit();
    }
    else
        for(i=0; i<n; i++)
            for(j=0; j<x; j++)
            {
                c[i][j] = 0;

                for(k=0; k<y; k++)
                    c[i][j] = c[i][j] + a[i][k] * b[k][j];
            }
}
```