

```

#include<stdio.h>
#include<stdlib.h>

/
*****
*****
*Function      :      main
*Input parameters:      no parameters
*RETURNS       :      0 on success
*****
*****/

int main(void)
{
    int iM, iN, iP, iQ, i, j, k, iaMat1[10][10], iaMat2[10][10];
    int iaProd[10][10] = {0}; //Initialize the matrix with all
zeros

printf("\n*****\n");
    printf("\n*\tPROGRAM TO IMPLEMENT MATRIX MULIPLICATION\t*
\n");

printf("*****");

    printf("\nEnter the order of Matrix1\n");
    scanf("%d%d",&iM,&iN);

    printf("\nEnter the order of Matrix2\n");
    scanf("%d%d",&iP,&iQ);

    if( iN != iP)
    {
        printf("\nMatrix Multiplication not possible\n");
        exit(0);
    }

    printf("\nEnter the elements of Matrix 1 in row major order
\n");
    for(i=0;i<iM;i++)
        for(j=0;j<iN;j++)
            scanf("%d",&iaMat1[i][j]);

    printf("\nEnter the elements of Matrix 2 in column major
order\n");
    for(i=0;i<iQ;i++)
        for(j=0;j<iP;j++)
            scanf("%d",&iaMat2[j][i]);

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        for(i=0;i<iM;i++)
        {
            for(j=0;j<iQ;j++)
            {
                for(k=0;k<iN;k++)
                {
                    iaProd[i][j] += iaMat1[i][k] * iaMat2[k][j];
                }
            }
        }
    }

```

```

/
*****
*****
a00  a01  a02  |*|      b00  b01  b02  |*|
a10  a11  a12  |*|      b10  b11  b12  |*|
a20  a21  a22  |*|      b20  b21  b22  |*|
          |*|          |*|
(a00*b00+a01*b10+a02*b20) (a00*b01+a01*b11+a02*b21)
(a00*b02+a01*b12+a02*b22)
(a10*b00+a11*b10+a12*b20) (a10*b01+a11*b11+a12*b21)
(a10*b02+a11*b12+a12*b22)
(a20*b00+a21*b10+a22*b20) (a20*b01+a21*b11+a22*b21)
(a20*b02+a21*b12+a22*b22)
*****
*****/

```

```

printf("\nMatrix 1\n");

for(i=0;i<iM;i++)
{
    for(j=0;j<iN;j++)
    {
        printf("%d\t",iaMat1[i][j]);
    }
    printf("\n");
}
printf("\n");

printf("\nMatrix 2\n");

for(i=0;i<iP;i++)
{
    for(j=0;j<iQ;j++)
    {
        printf("%d\t",iaMat2[i][j]);
    }
    printf("\n");
}
printf("\n");

```

```
printf("\nThe Product matrix is is \n");

for(i=0;i<iM;i++)
{
    for(j=0;j<iQ;j++)
    {
        printf("%d\t",iaProd[i][j]);
    }
    printf("\n");
}
printf("\n");
return 0;
}
```