**Matrix Multiplication:**

#include <stdio.h>

#include<stdlib.h>

int multi(int m,int n,int p,int q);

main()

{

int m,n,p,q;

printf("enter no of row and column of first matrix");

scanf("%d%d",&m,&n);

printf("enter no of row and column of second matrix");

scanf("%d%d",&p,&q);

if((m==p)&&(n==q)||(n==p))

printf("\n matrix can be multiplied");

else

{

printf("\n matrix cannot be multiplied");

exit (0);

}

multi(m,n,p,q);

}

int multi(int m,int n,int p,int q)

{

int i,j,k,a[10][10],b[10][10],c[10][10];

printf("\n enter first matrix");

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

{

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

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

}

printf("\n enter second matrix");

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

{

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

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

}

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

{

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

{

c[i][j]=0;

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

c[i][j]+=(a[i][k]\*b[k][j]);

}

}

printf("multiplication of a and b matrix is");

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

{

printf("\n");

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

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

}

}

**Output:**

enter no of row and column of first matrix2

2

enter no of row and column of second matrix2

2

matrix can be multiplied

enter first matrix1

2

3

6

enter second matrix1

8

9

4

multiplication of a and b matrix is

19 16

57 48