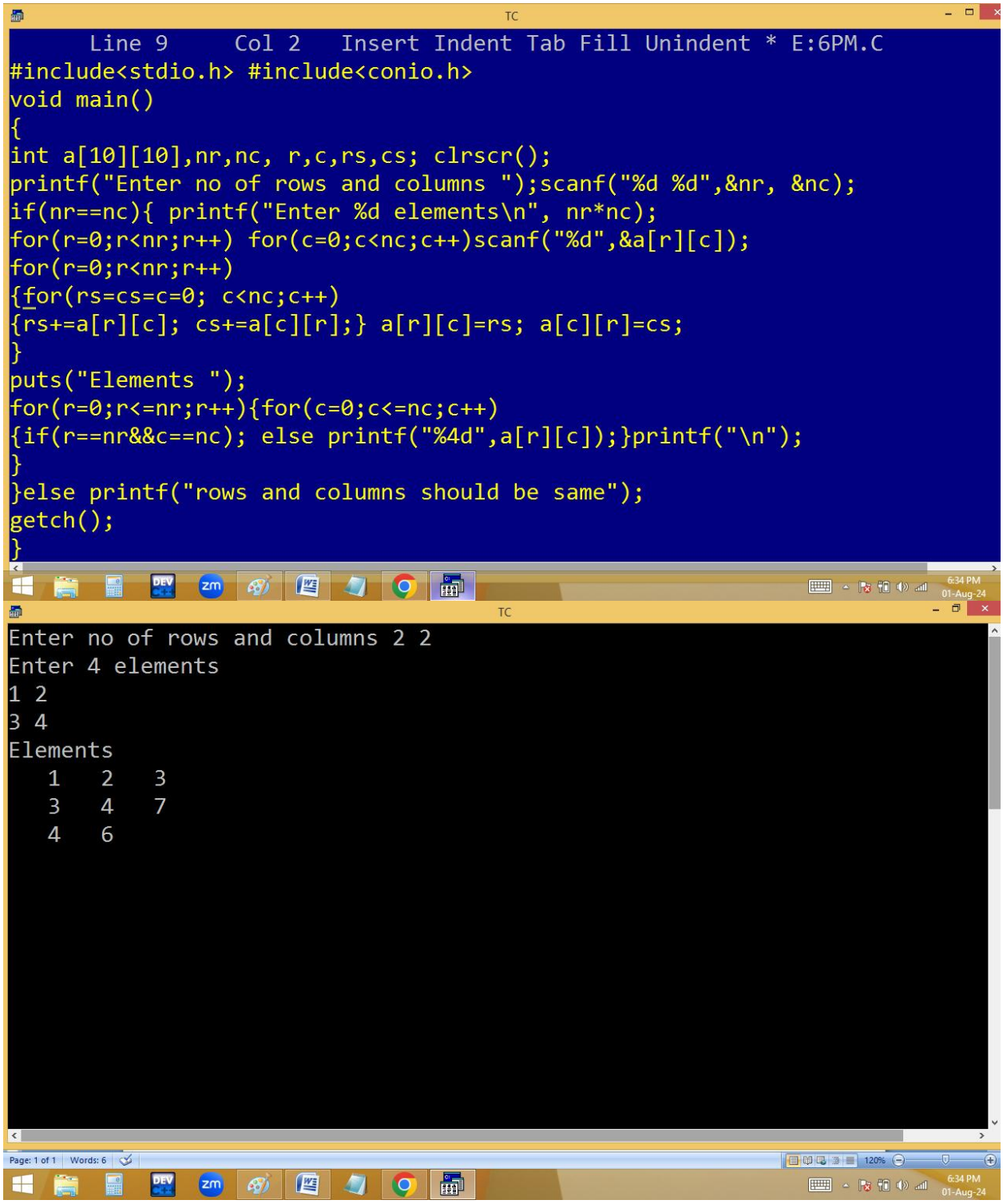
Finding row sum and column sum:



```
for(r=0;r<2;r++)
{
for(rs=cs=c=0;c<2;c++)
{
rs+=a[r][c]; cs+=a[c][r];
}
a[r][c]=rs;  a[c][r]=cs;
}
```

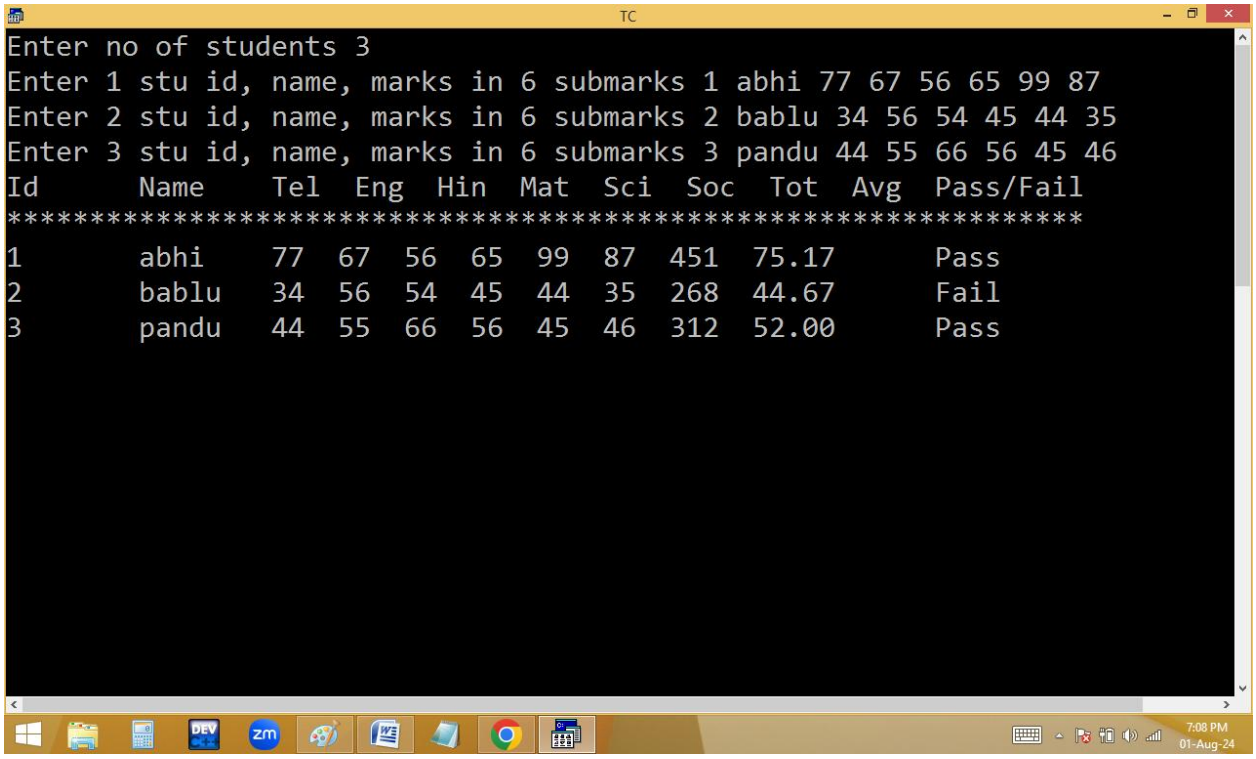
r	c	rs	cs
0	01 2	0+9+4=13	0+9+5=14
1	012	0+5+7=12	0+4+7=11
2			

9 0,0	4 0,1	13 0,2
5 1,0	7 1,1	12 1,2
14 2,0	11 2,1	2,2

Finding n student tot, avg and result

```
#include<stdio.h> #include<conio.h>

void  dummy(float a){float *p = &a; }

void main()

{

float a[10][10]={0}; int n, r,c,i; char  name[10][20];  clrscr();

printf("Enter no of students "); scanf("%d",&n);

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

{

printf("Enter %d stu id, name, marks in 6 submarks ",r+1);

scanf("%f %s",&a[r][0],name[r]);

for(c=1;c<=6;c++){scanf("%f",&a[r][c]);a[r][7]+=a[r][c];if(a[r][c]
<35)

a[r][9]=-1;}
```

```
a[r][8]=a[r][7]/6;
}
puts("Id\tName\tTel Eng Hin Mat Sci Soc Tot Avg\tPass/Fail");
puts("**********************************************************************");
for(r=0;r<n;r++)
{
printf("%.0f\t%s\t",a[r][0],name[r]);
for(i=1;i<=7;i++)printf("%.0f  ",a[r][i]);
printf("%.2f\t",a[r][i]);
if(a[r][9]==0)puts("Pass");else puts("Fail");
}
getch();
}
```

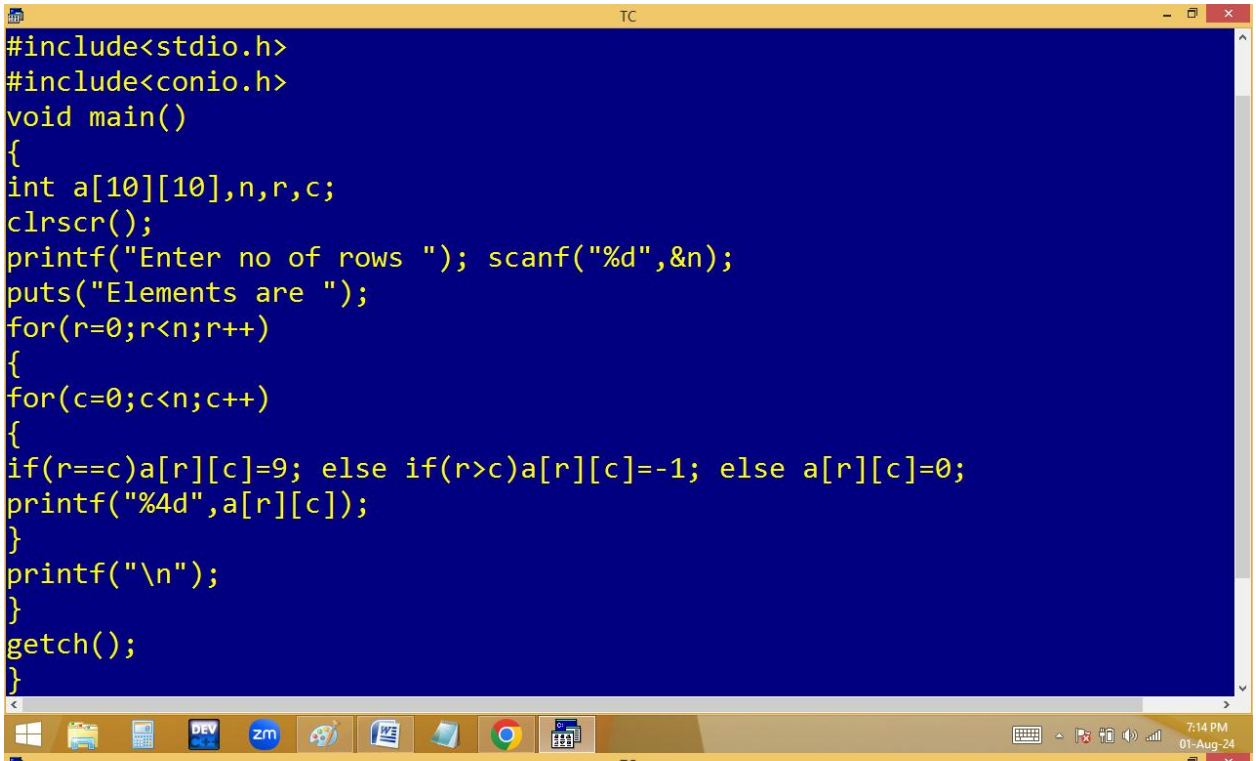


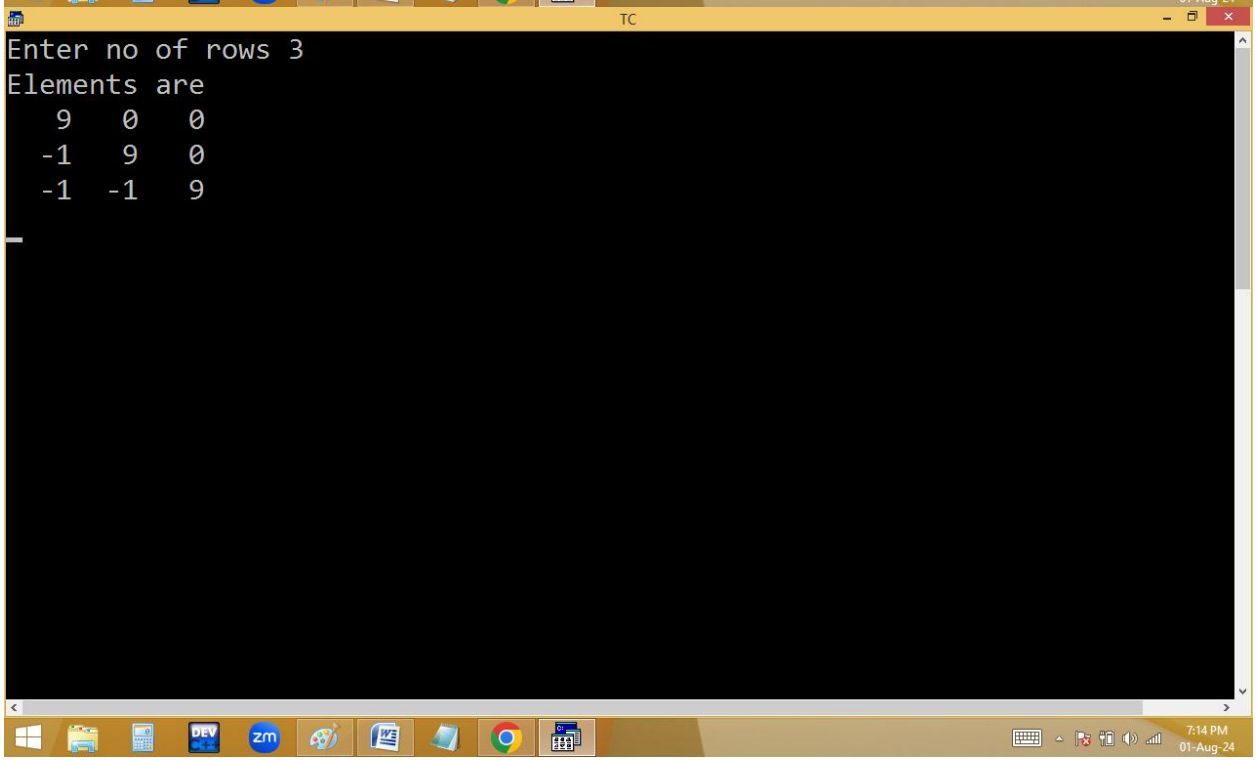
Printing below output using a n*n matrix:

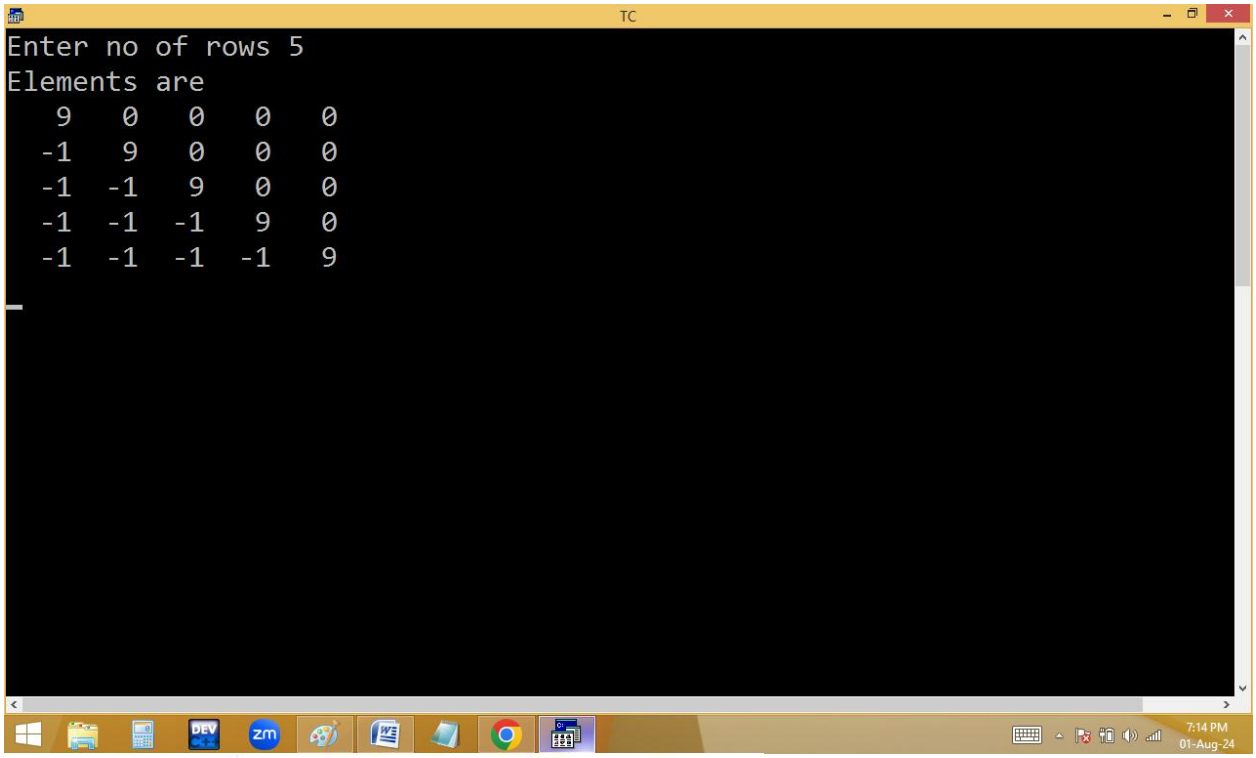
9 0 0

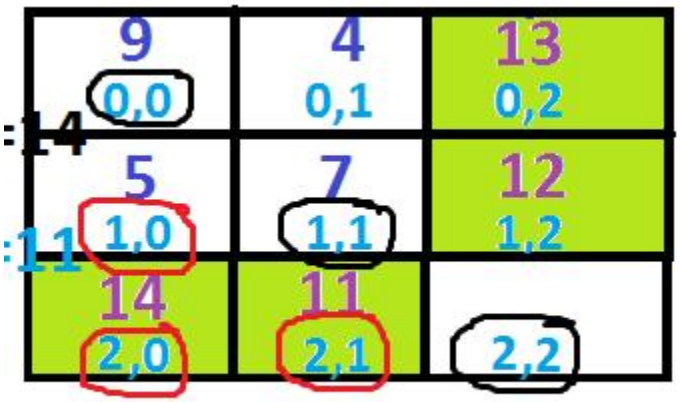
-1 9 0

-1 -1 9

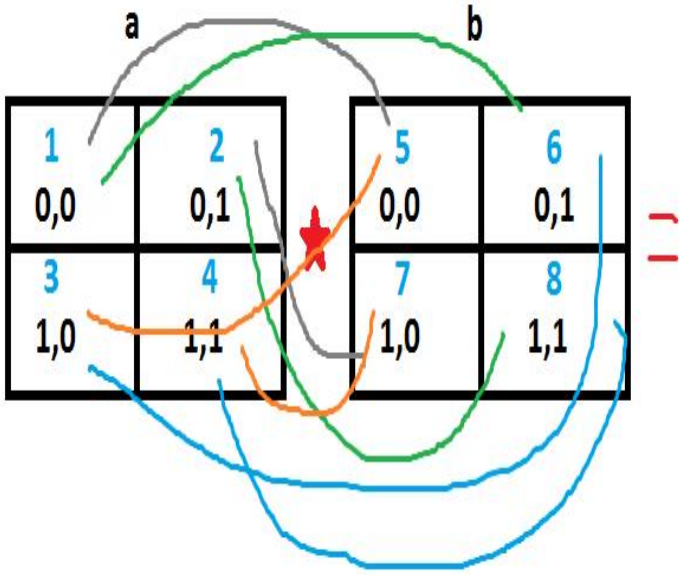

TC
#include<stdio.h>
#include<conio.h>
void main()
{
int a[10][10],n,r,c;
clrscr();
printf("Enter no of rows "); scanf("%d",&n);
puts("Elements are ");
for(r=0;r<n;r++)
{
for(c=0;c<n;c++)
{
if(r==c)a[r][c]=9; else if(r>c)a[r][c]=-1; else a[r][c]=0;
printf("%4d",a[r][c]);
}
printf("\n");
}
getch();
}


TC
Enter no of rows 3
Elements are
9 0 0
-1 9 0
-1 -1 9





Matrix multiplication:

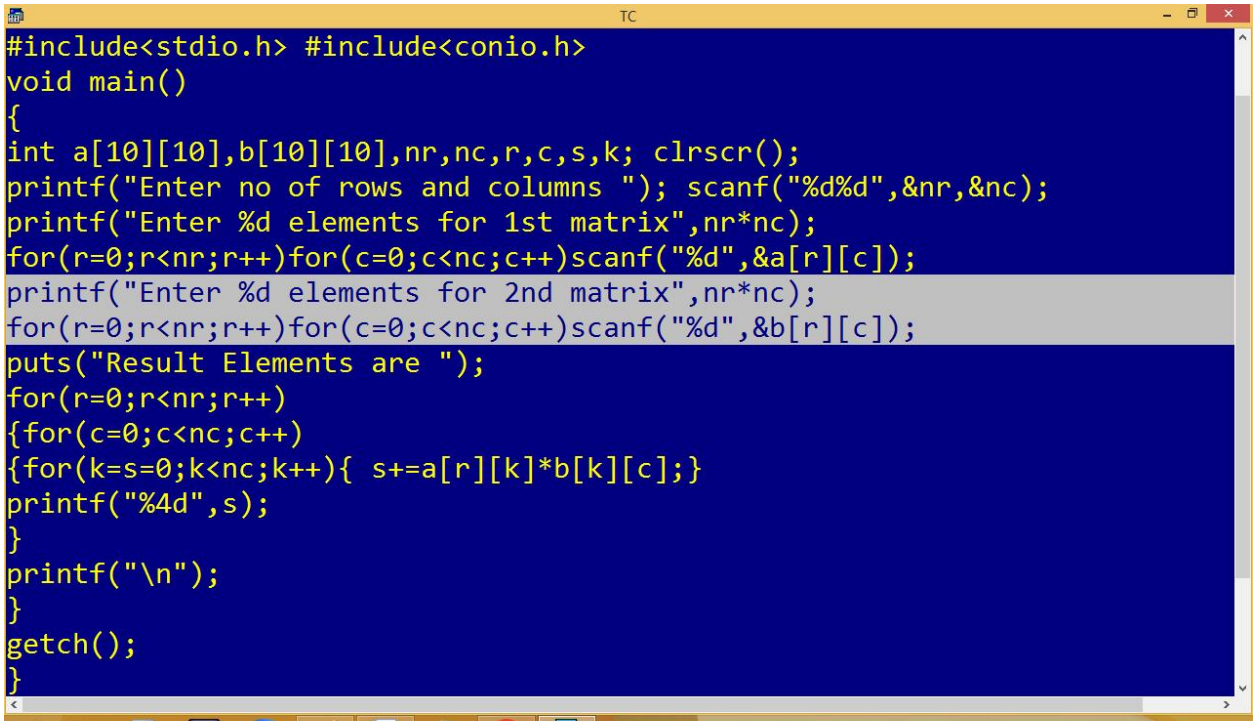


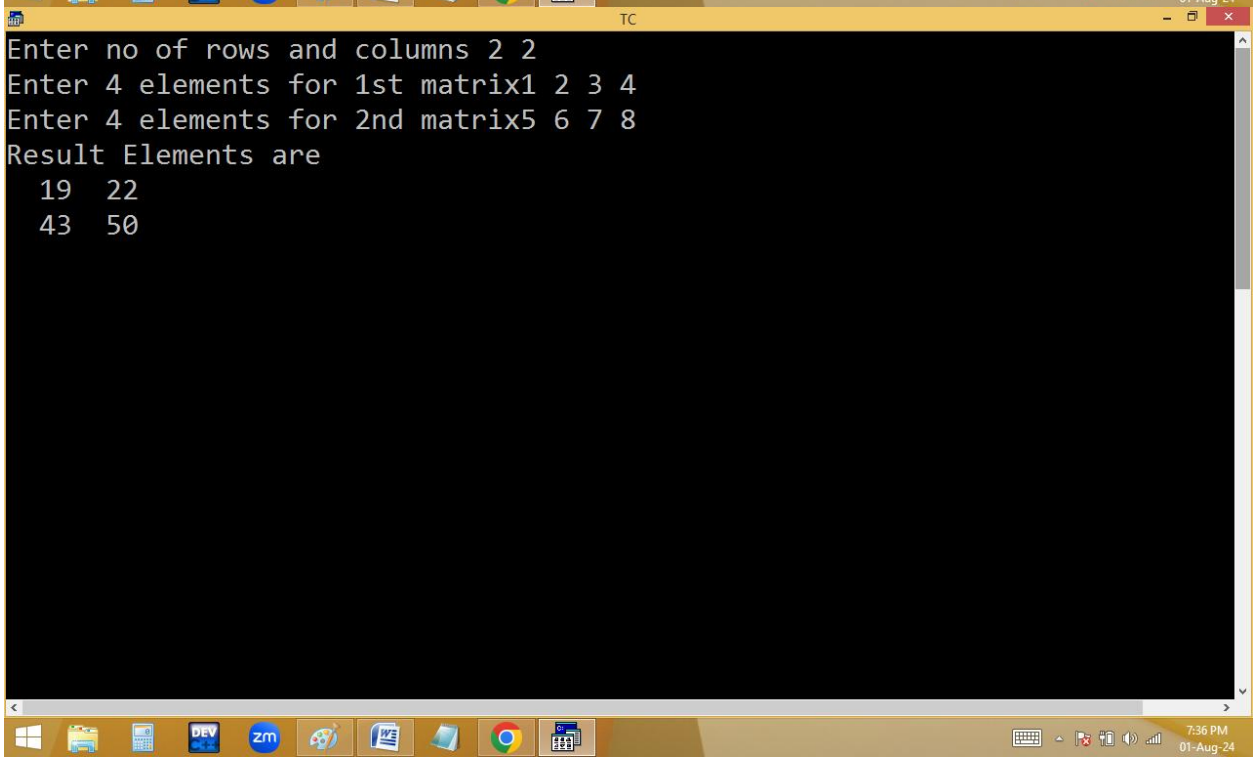
1*5+2*7=19

1*6+2*8=22

3*5+4*7=43

3*6+4*8=50


TC
#include<stdio.h> #include<conio.h>
void main()
{
int a[10][10],b[10][10],nr,nc,r,c,s,k; clrscr();
printf("Enter no of rows and columns "); scanf("%d%d",&nr,&nc);
printf("Enter %d elements for 1st matrix",nr*nc);
for(r=0;r<nr;r++)for(c=0;c<nc;c++)scanf("%d",&a[r][c]);
printf("Enter %d elements for 2nd matrix",nr*nc);
for(r=0;r<nr;r++)for(c=0;c<nc;c++)scanf("%d",&b[r][c]);
puts("Result Elements are ");
for(r=0;r<nr;r++)
{for(c=0;c<nc;c++)
{for(k=s=0;k<nc;k++){ s+=a[r][k]*b[k][c];}
printf("%4d",s);
}
printf("\n");
}
getch();
}


TC
Enter no of rows and columns 2 2
Enter 4 elements for 1st matrix1 2 3 4
Enter 4 elements for 2nd matrix5 6 7 8
Result Elements are
19 22
43 50

```
for( r=0; r<2; r++)
{
for( c=0; c<2; c++ )
{
for(s=k=0; k<2;k++)
{
s+=a[r][k] * b[k][c];
}
p(s);
}
p("\n");
}
```

r	c	k	s
0	0	012	0+1*5=5+2*7=19
0	1	012	0+1*6=6+2*8=22
1	0	012	0+3*5=15+4*7=43
1	1	012	0+3*6+4*8=50

a

1 0,0	2 0,1
3 1,0	4 1,1

b

5 0,0	6 0,1
7 1,0	8 1,1

19 22
43 50