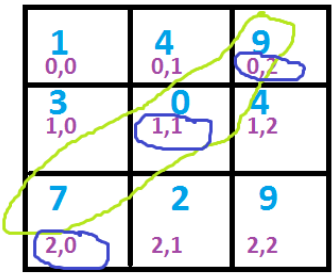
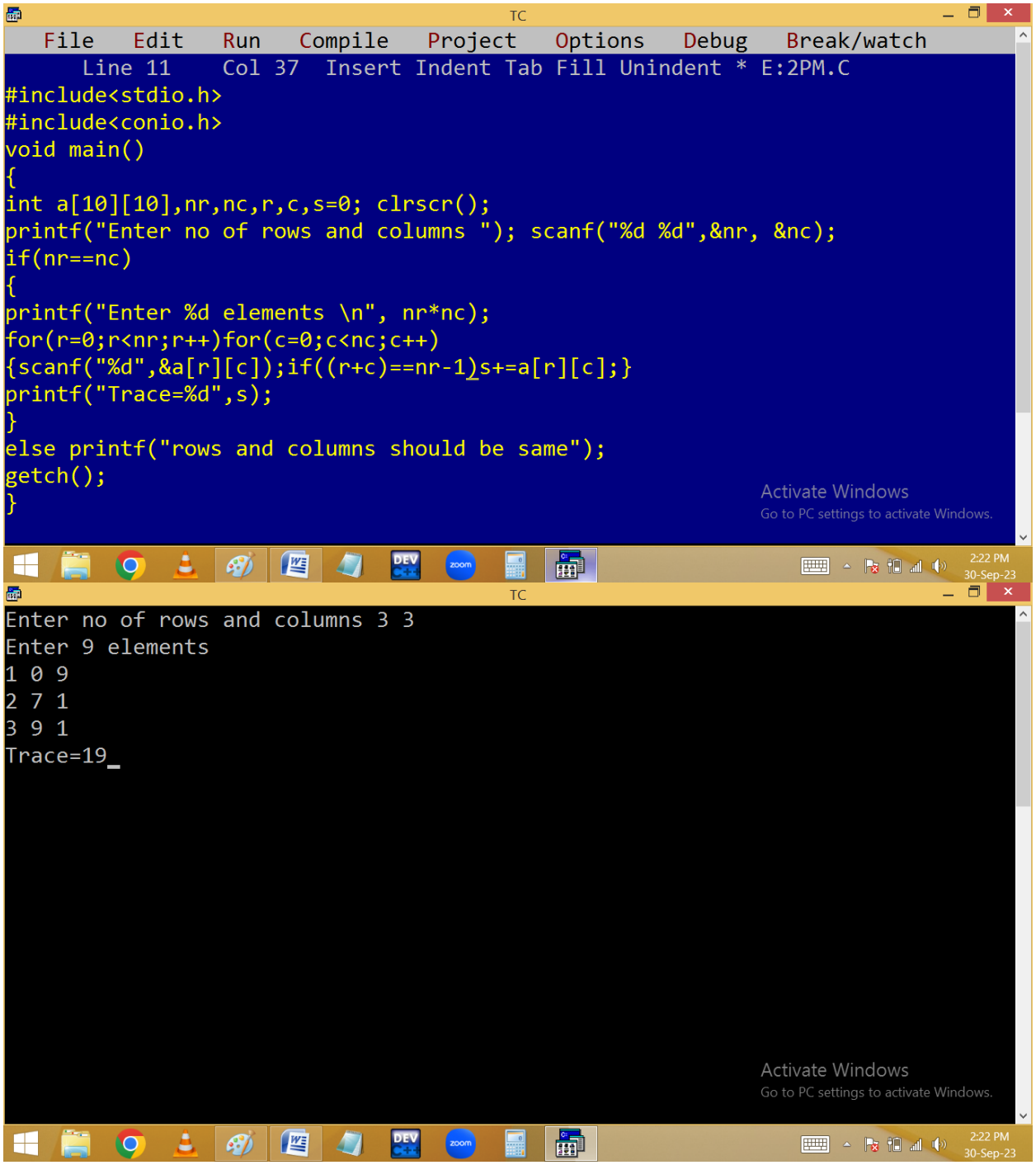
Finding trace of right diagonal elements:

```
if( (r+c)==n-1) s+=a[r][c];
    0+2==3-1
```



16



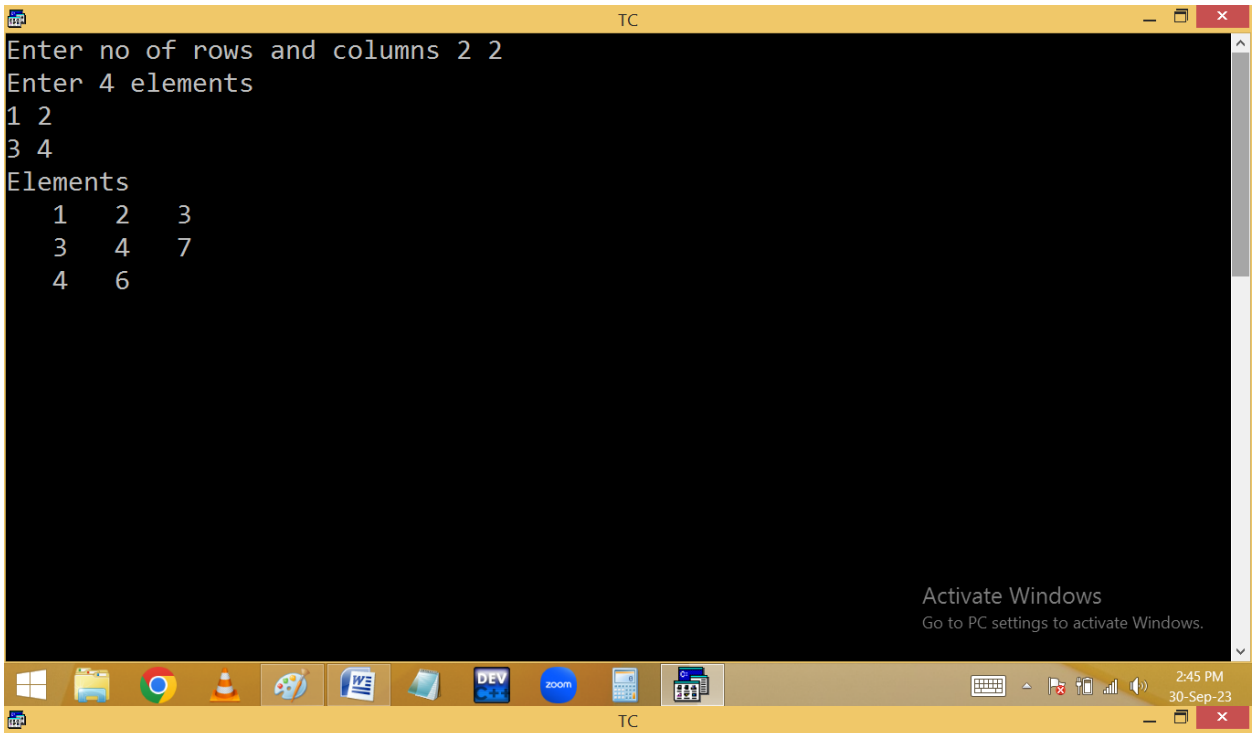
Finding row and column sum.

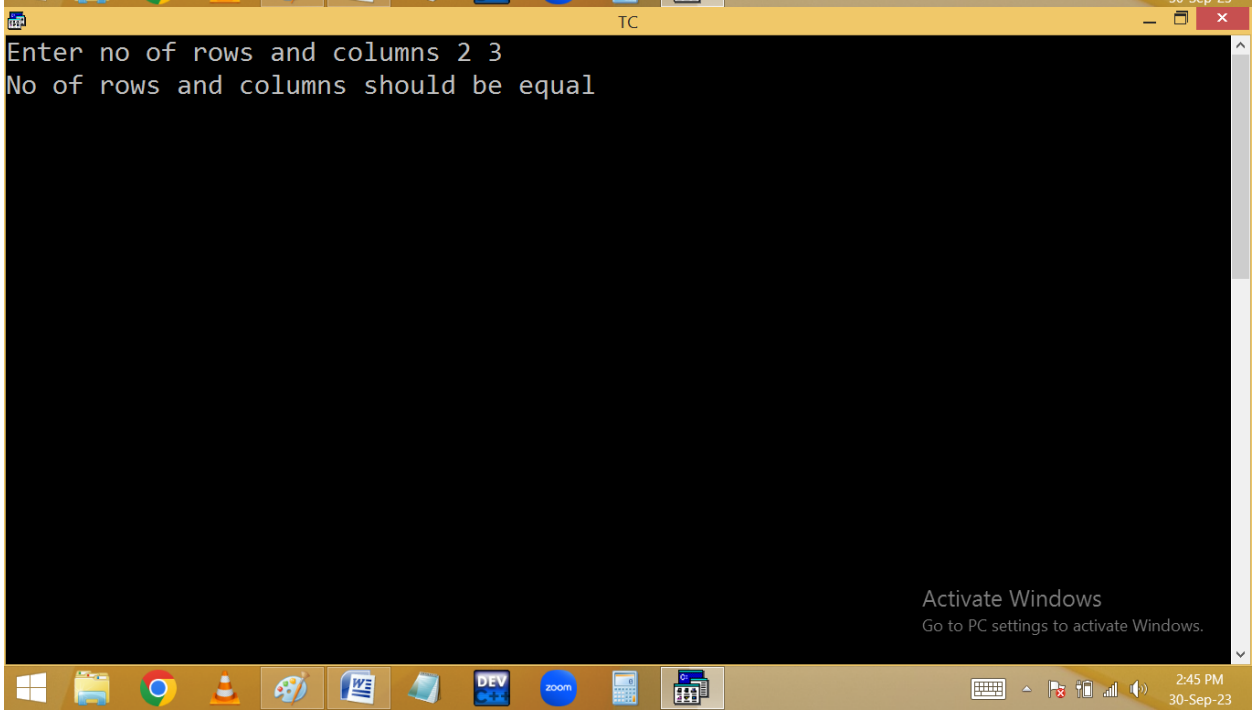
#include<stdio.h>

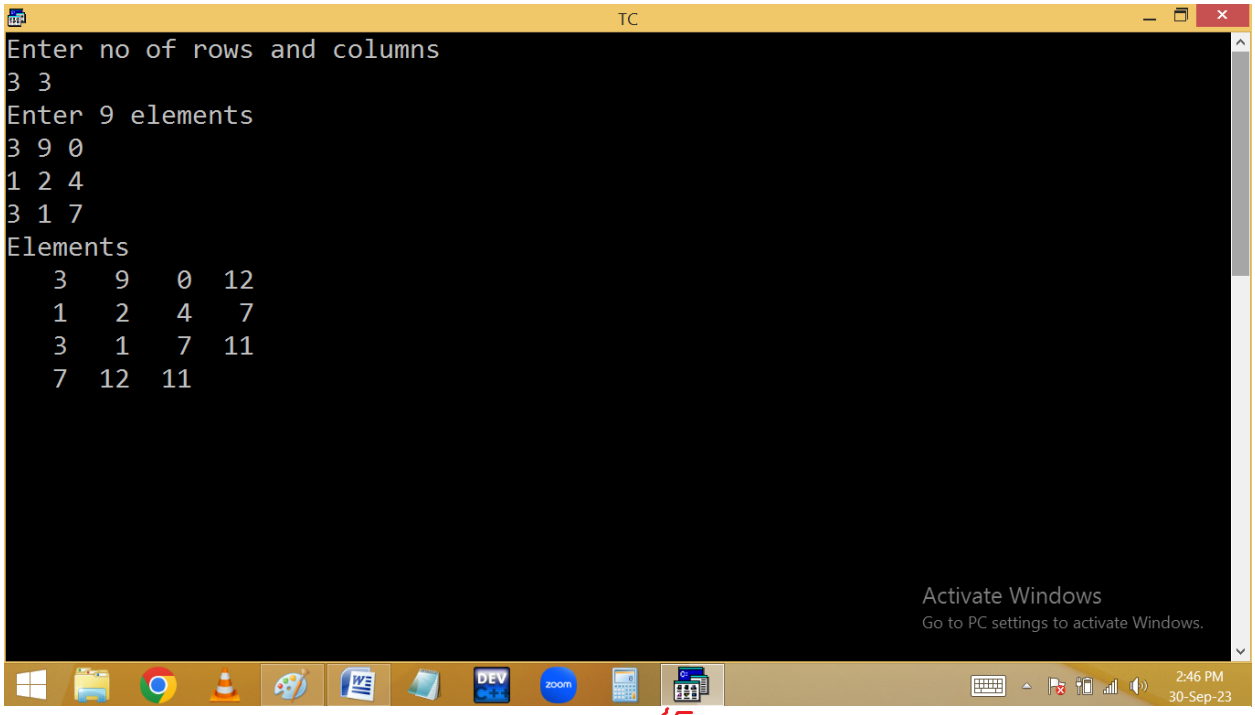
#include<conio.h>

```
void main()
{
int a[10][10],nr,nc,r,c,rs,cs; clrscr();
printf("Enter no of rows and columns "); scanf("%d %d",&nr, &nc);
if(nr==nc)
{
printf("Enter %d elements \n", nr*nc);
for(r=0;r<nr;r++)for(c=0;c<nc;c++)scanf("%d",&a[r][c]);

for(r=0;r<nr;r++){for(rs=cs=c=0;c<nc;c++){rs+=a[r][c]; cs+=a[c][r];}
a[r][c]=rs;a[c][r]=cs;
}
printf("Elements\n");
for(r=0;r<=nr;r++)
{
for(c=0;c<=nc;c++)
if(r==nr&&c==nc); else printf("%4d",a[r][c]); printf("\n");
}
}
else printf("No of rows and columns should be equal");
```

```
getch();

}
```


TC
Enter no of rows and columns 2 2
Enter 4 elements
1 2
3 4
Elements
1 2 3
3 4 7
4 6
Activate Windows
Go to PC settings to activate Windows.
2:45 PM
30-Sep-23


TC
Enter no of rows and columns 2 3
No of rows and columns should be equal
Activate Windows
Go to PC settings to activate Windows.
2:45 PM
30-Sep-23




```
for(r=0;r<2;r++)
{
for(rs=cs=c=0;c<2;c++)
{
s("%d",&a[r][c]);
rs+=a[r][c]; cs+=a[c][r];
}
a[r][c]=rs;  a[c][r]=cs;
}
```

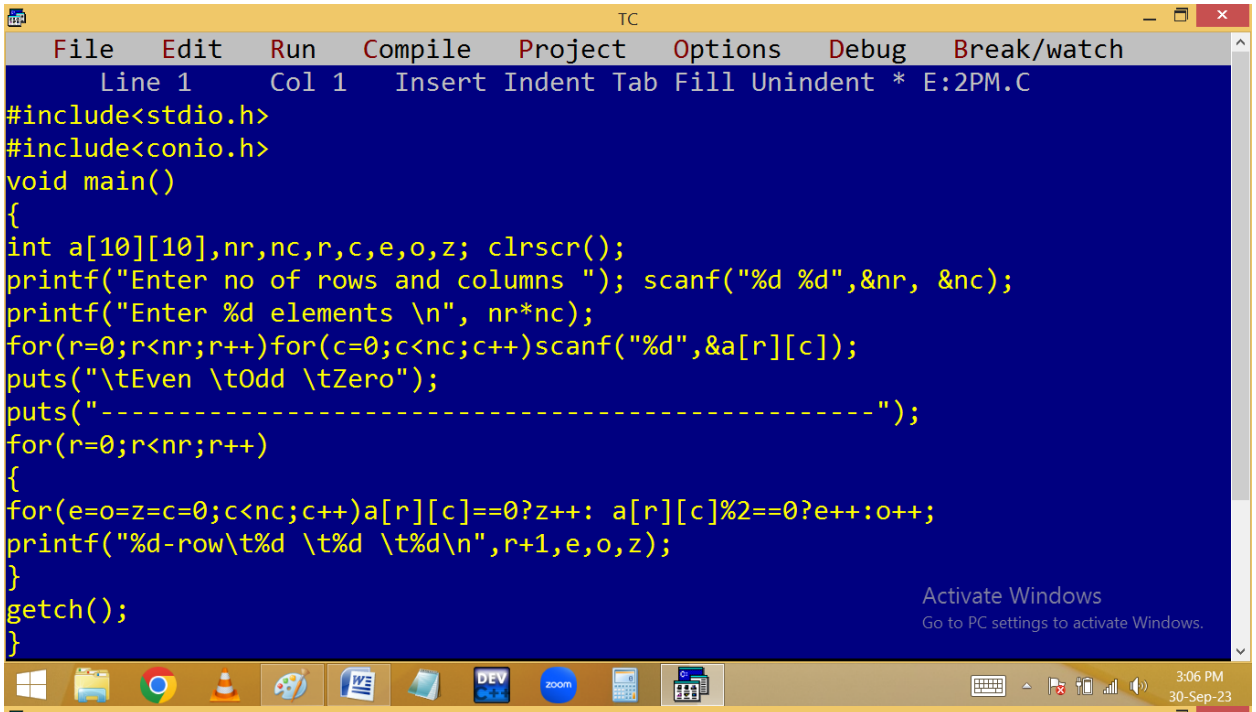
r = 0 1

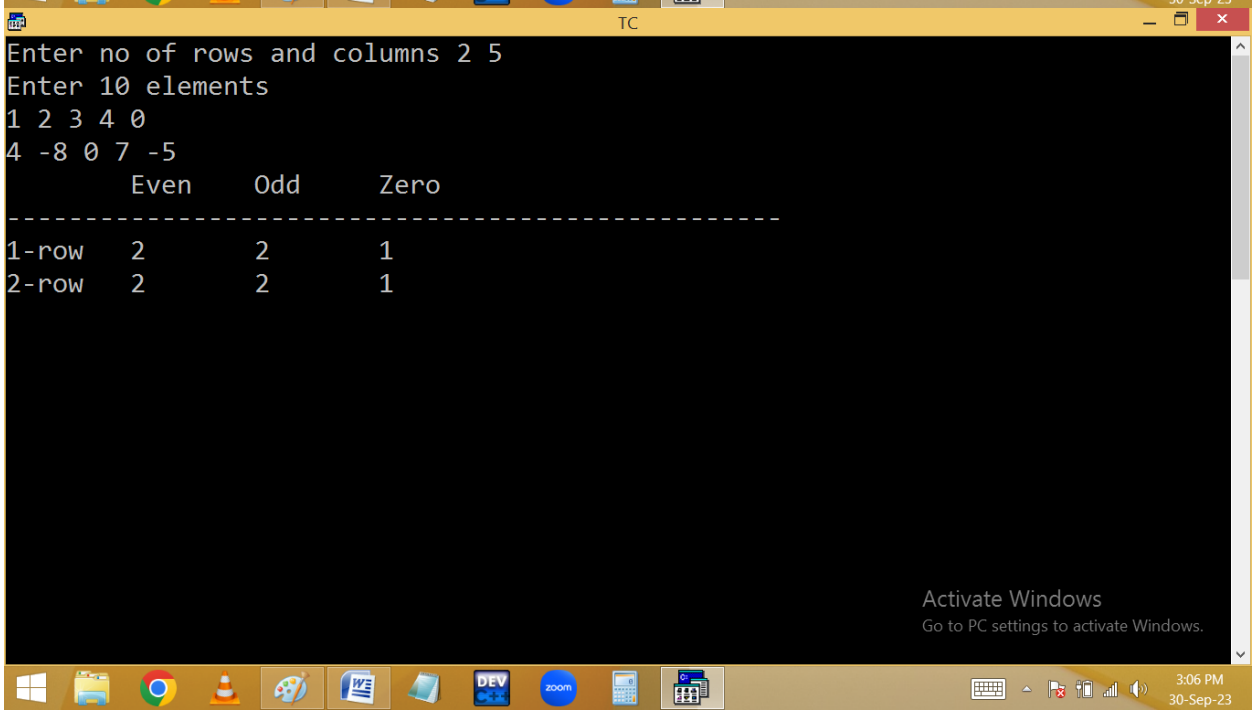
c = 0 1 2

rs: 0+1=1, 1+4=5 ✓, 0+3=3, 3+0=3

cs: 0+1=1, 1+3=4, 0+4=4, 4+0=4

1 (0,0)	4 (0,1)	5 ✓ (0,2)
3 (1,0)	0 (1,1)	3 (1,2)
4 ✓ (2,0)	4 (2,1)	(2,2)


TC
File Edit Run Compile Project Options Debug Break/watch
Line 1 Col 1 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[10][10],nr,nc,r,c,e,o,z; clrscr();
printf("Enter no of rows and columns "); scanf("%d %d",&nr, &nc);
printf("Enter %d elements \n", nr*nc);
for(r=0;r<nr;r++)for(c=0;c<nc;c++)scanf("%d",&a[r][c]);
puts("\tEven \tOdd \tZero");
puts("---");
for(r=0;r<nr;r++)
{
for(e=o=z=c=0;c<nc;c++)a[r][c]==0?z++: a[r][c]%2==0?e++:o++;
printf("%d-row\t%d \t%d \t%d\n",r+1,e,o,z);
}
getch();
}
Activate Windows
Go to PC settings to activate Windows.
3:06 PM
30-Sep-23


TC
Enter no of rows and columns 2 5
Enter 10 elements
1 2 3 4 0
4 -8 0 7 -5
Even Odd Zero
1-row 2 2 1
2-row 2 2 1
Activate Windows
Go to PC settings to activate Windows.
3:06 PM
30-Sep-23

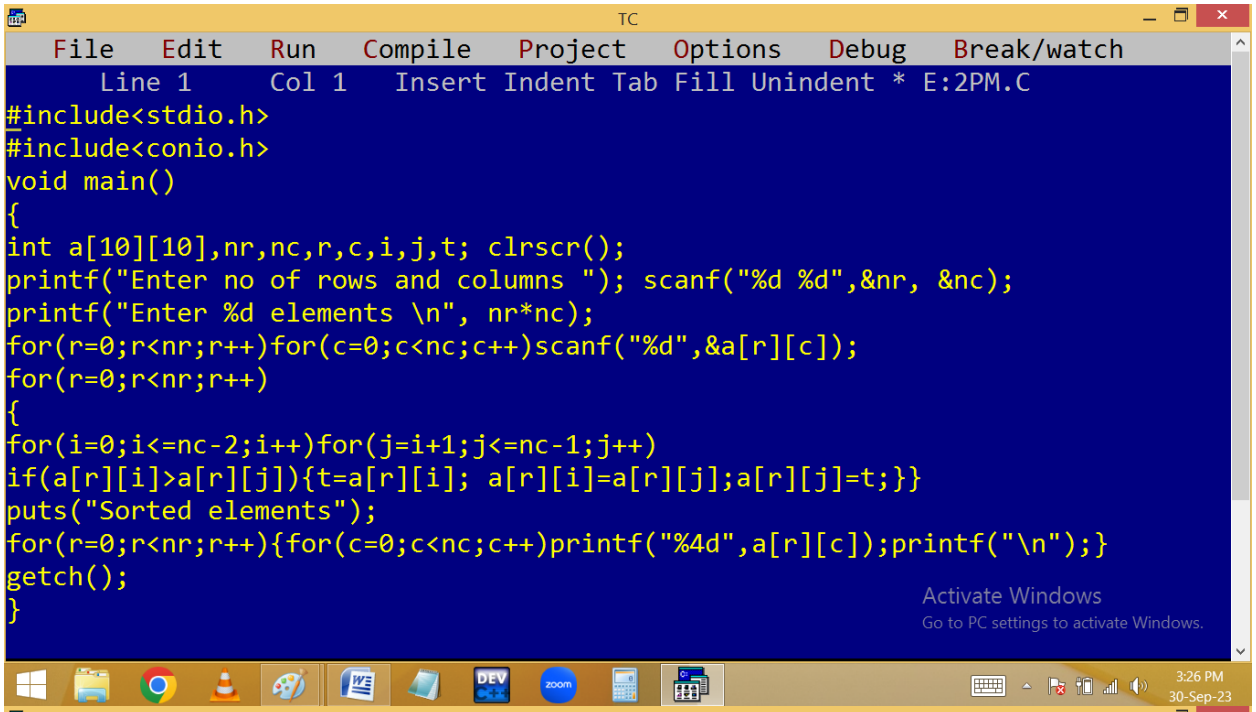
```
puts("\t Even\tOdd\t Zero");
puts("-------------------------------------------------");
for(r=0;r<3;r++)
{
for(e=o=z=c=0;c<3;c++)
a[r][c]==0?z++:a[r][c]%2==0?e++:o++;
}
p("%d-row\t%d\t%d\t%d\n",r+1,e,o,z);
}
```

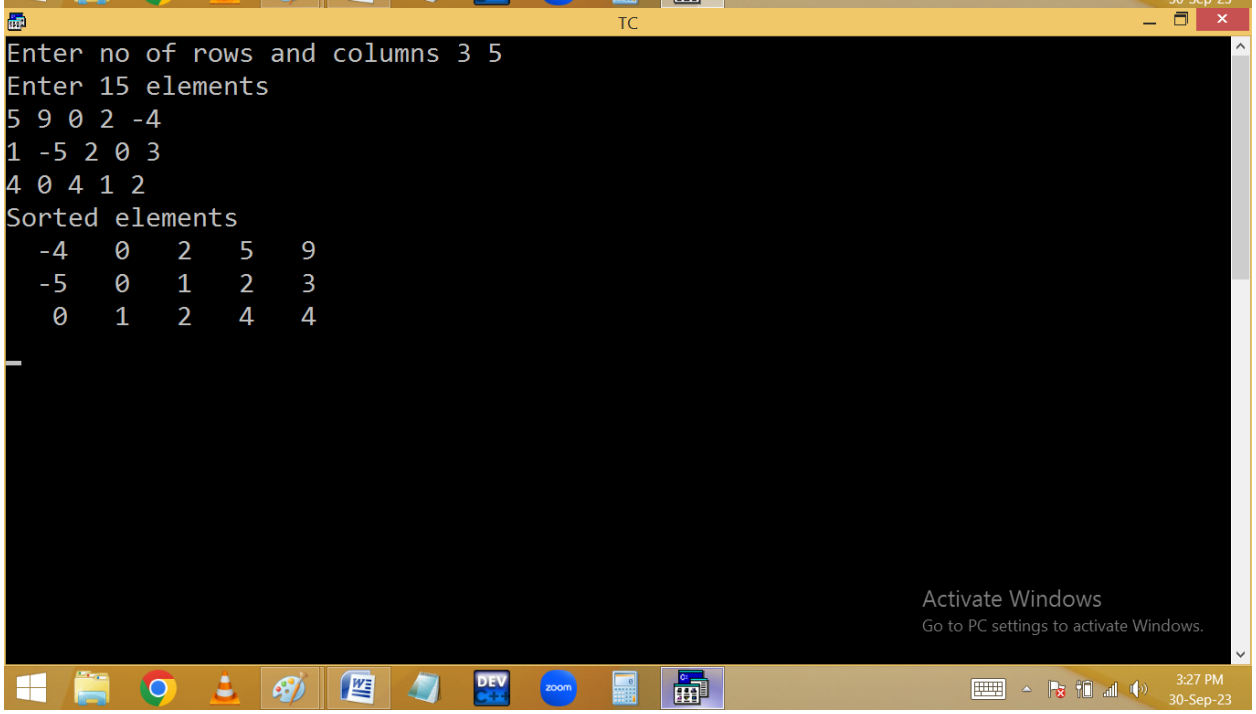
2-row	1	1	1
3-row	2	1	0

1 0,0	4 0,1	5 0,2	
3 1,0	0 1,1	4 1,2	
4 2,0	2 2,1	1 2,2	

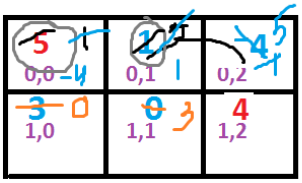
	Even	Odd	Zero
1-row	1	2	0
2-row	1	1	1
3-row	2	1	0

Arranging 2d elements row wise:

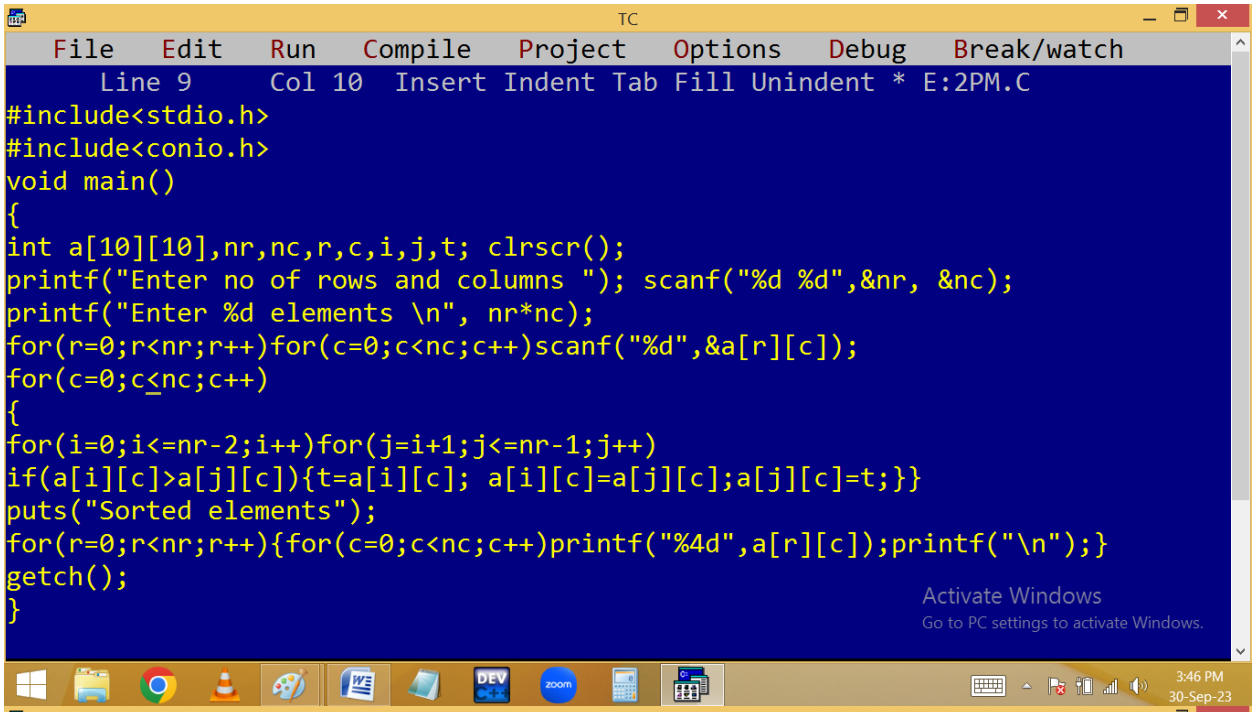

TC
File Edit Run Compile Project Options Debug Break/watch
Line 1 Col 1 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[10][10],nr,nc,r,c,i,j,t; clrscr();
printf("Enter no of rows and columns "); scanf("%d %d",&nr, &nc);
printf("Enter %d elements \n", nr*nc);
for(r=0;r<nr;r++)for(c=0;c<nc;c++)scanf("%d",&a[r][c]);
for(r=0;r<nr;r++)
{
for(i=0;i<=nc-2;i++)for(j=i+1;j<=nc-1;j++)
if(a[r][i]>a[r][j]){t=a[r][i]; a[r][i]=a[r][j];a[r][j]=t;}}
puts("Sorted elements");
for(r=0;r<nr;r++){for(c=0;c<nc;c++)printf("%4d",a[r][c]);printf("\n");}
getch();
}
Activate Windows
Go to PC settings to activate Windows.
3:26 PM
30-Sep-23

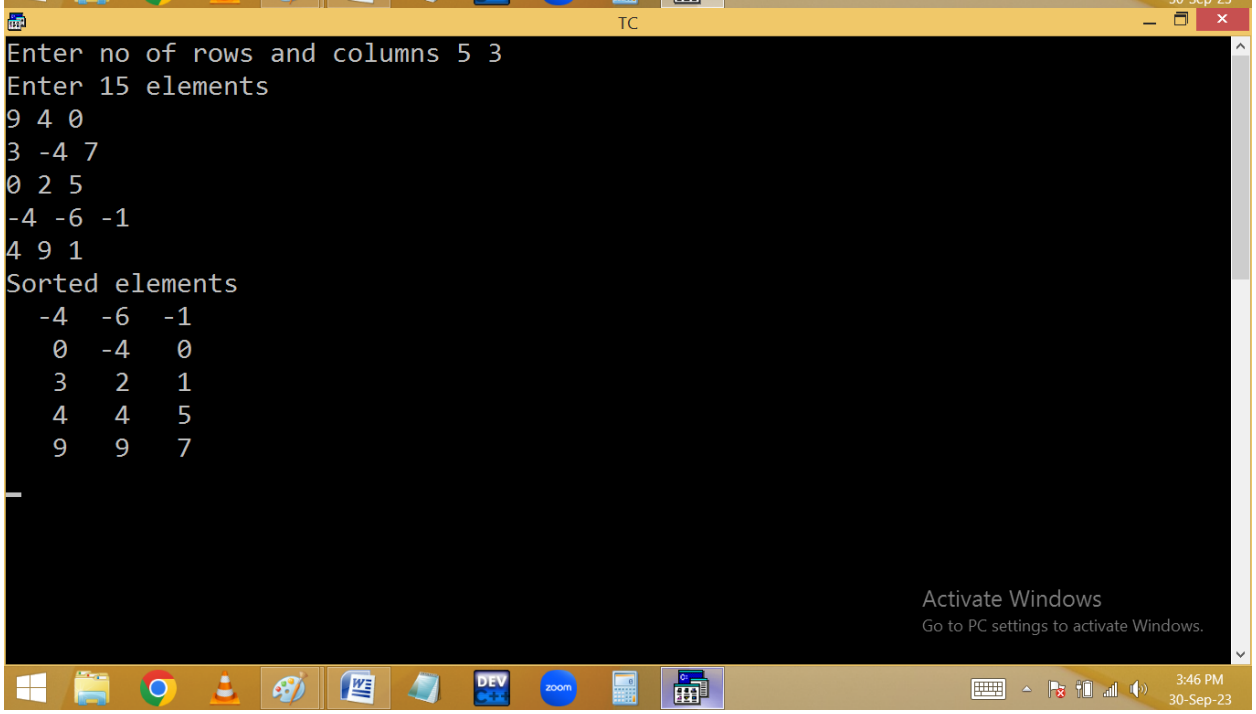

TC
Enter no of rows and columns 3 5
Enter 15 elements
5 9 0 2 -4
1 -5 2 0 3
4 0 4 1 2
Sorted elements
-4 0 2 5 9
-5 0 1 2 3
0 1 2 4 4
Activate Windows
Go to PC settings to activate Windows.
3:27 PM
30-Sep-23

```
for(r=0;r<2;r++)
{
for(i=0;i<=nc-2;i++)
{
for( j=i+1;j<=nc-1;j++)
if(a[r][i]>a[r][j]){t=a[r][i];a[r][i]=a[r][j];a[r][j]=t;}
}
}
```



Column wise:


TC
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 10 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[10][10],nr,nc,r,c,i,j,t; clrscr();
printf("Enter no of rows and columns "); scanf("%d %d",&nr, &nc);
printf("Enter %d elements \n", nr*nc);
for(r=0;r<nr;r++)for(c=0;c<nc;c++)scanf("%d",&a[r][c]);
for(c=0;c<nc;c++)
{
for(i=0;i<=nr-2;i++)for(j=i+1;j<=nr-1;j++)
if(a[i][c]>a[j][c]){t=a[i][c]; a[i][c]=a[j][c];a[j][c]=t;}}
puts("Sorted elements");
for(r=0;r<nr;r++){for(c=0;c<nc;c++)printf("%4d",a[r][c]);printf("\n");}
getch();
}
Activate Windows
Go to PC settings to activate Windows.
3:46 PM
30-Sep-23


TC
Enter no of rows and columns 5 3
Enter 15 elements
9 4 0
3 -4 7
0 2 5
-4 -6 -1
4 9 1
Sorted elements
-4 -6 -1
0 -4 0
3 2 1
4 4 5
9 9 7
Activate Windows
Go to PC settings to activate Windows.
3:46 PM
30-Sep-23

```
for( c=0;c<nc;c++)
{
 for(i=0;i<=nr-2;i++)
 {
 for(j=i+1;j<=nr-1;j++)
 {
 if(a[i][c]>a[j][c])
```

i	j	c
0	1	0
	2	
	3	
1	2	
2	3	
	1	
0	2	1
1	2	
0	1	2