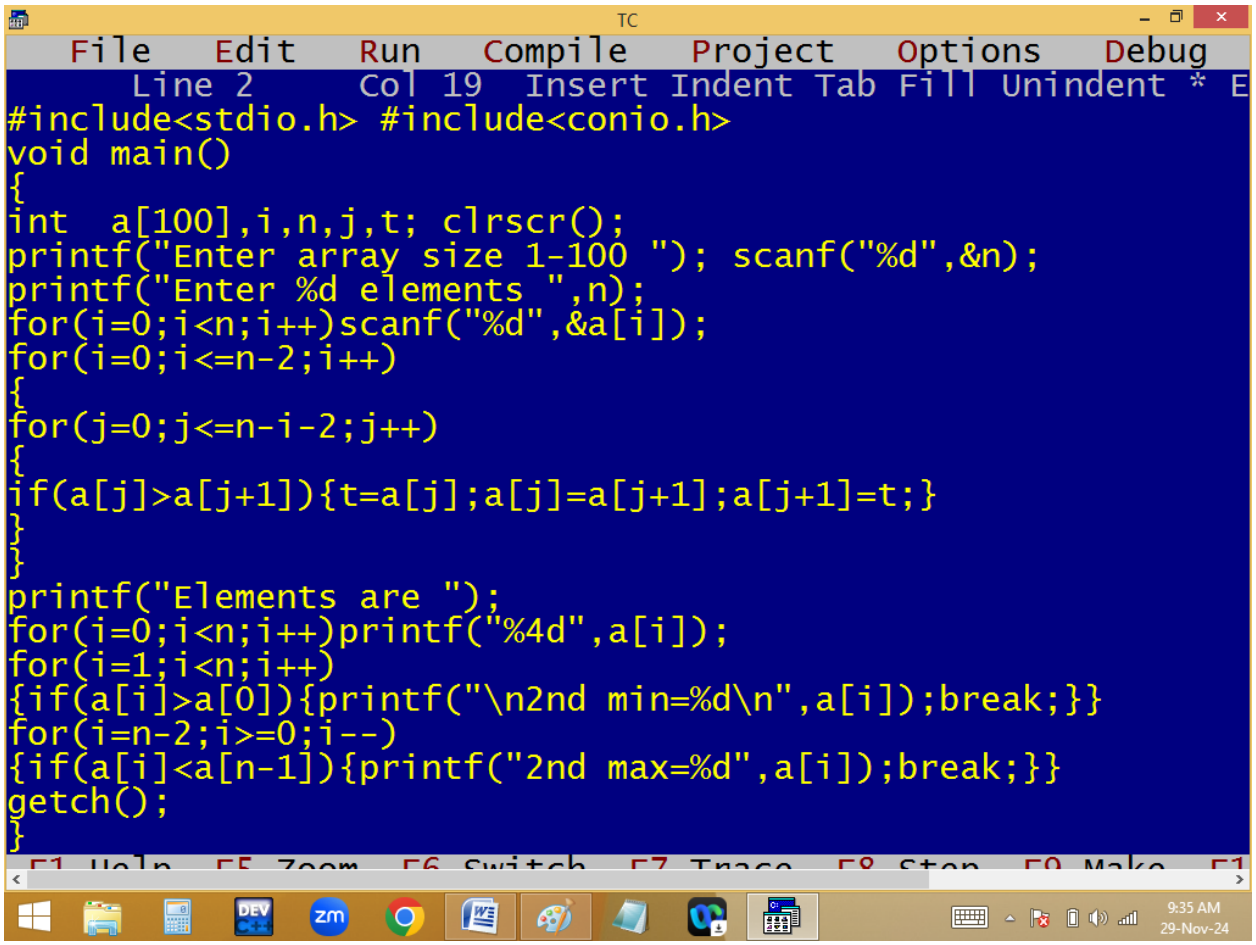
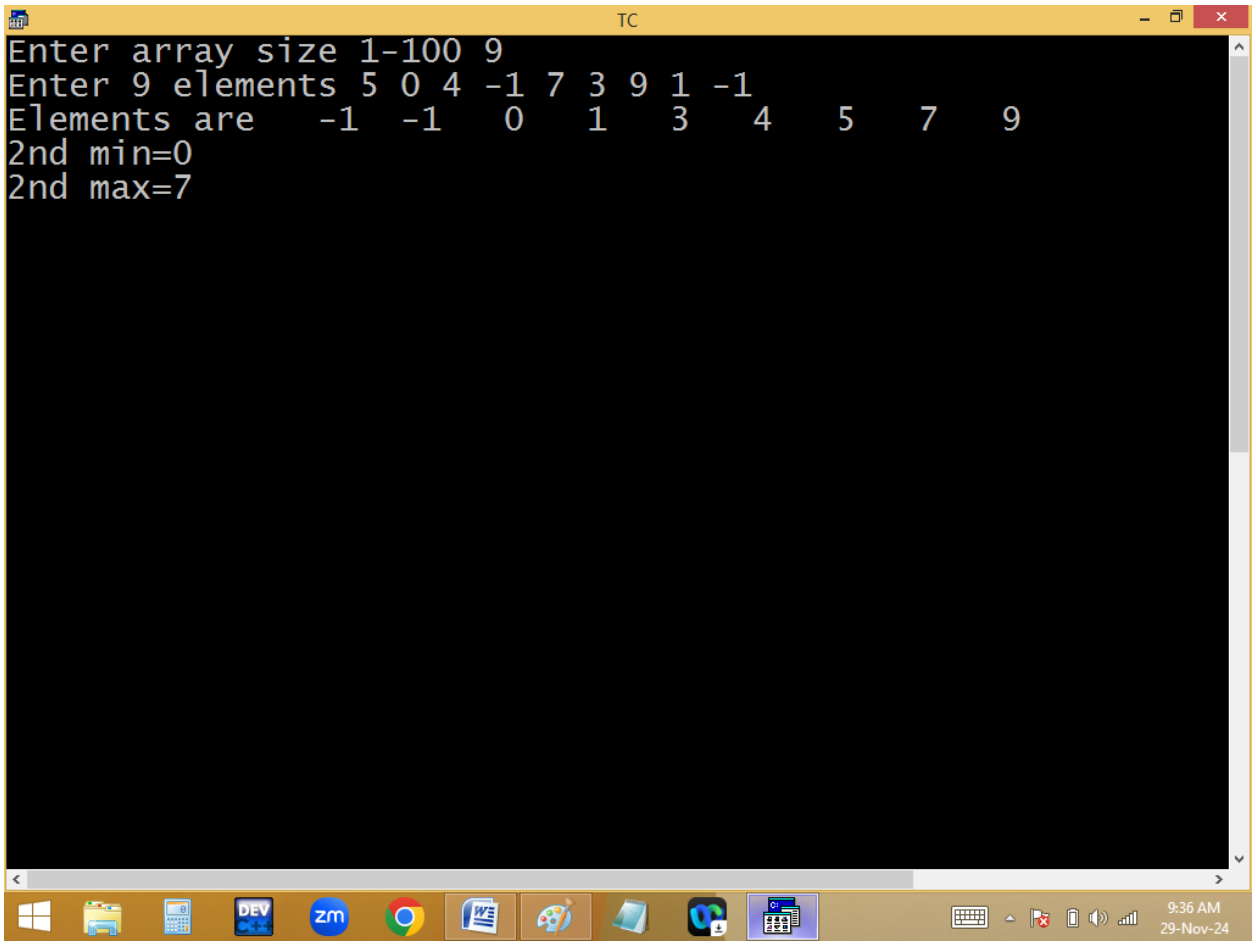
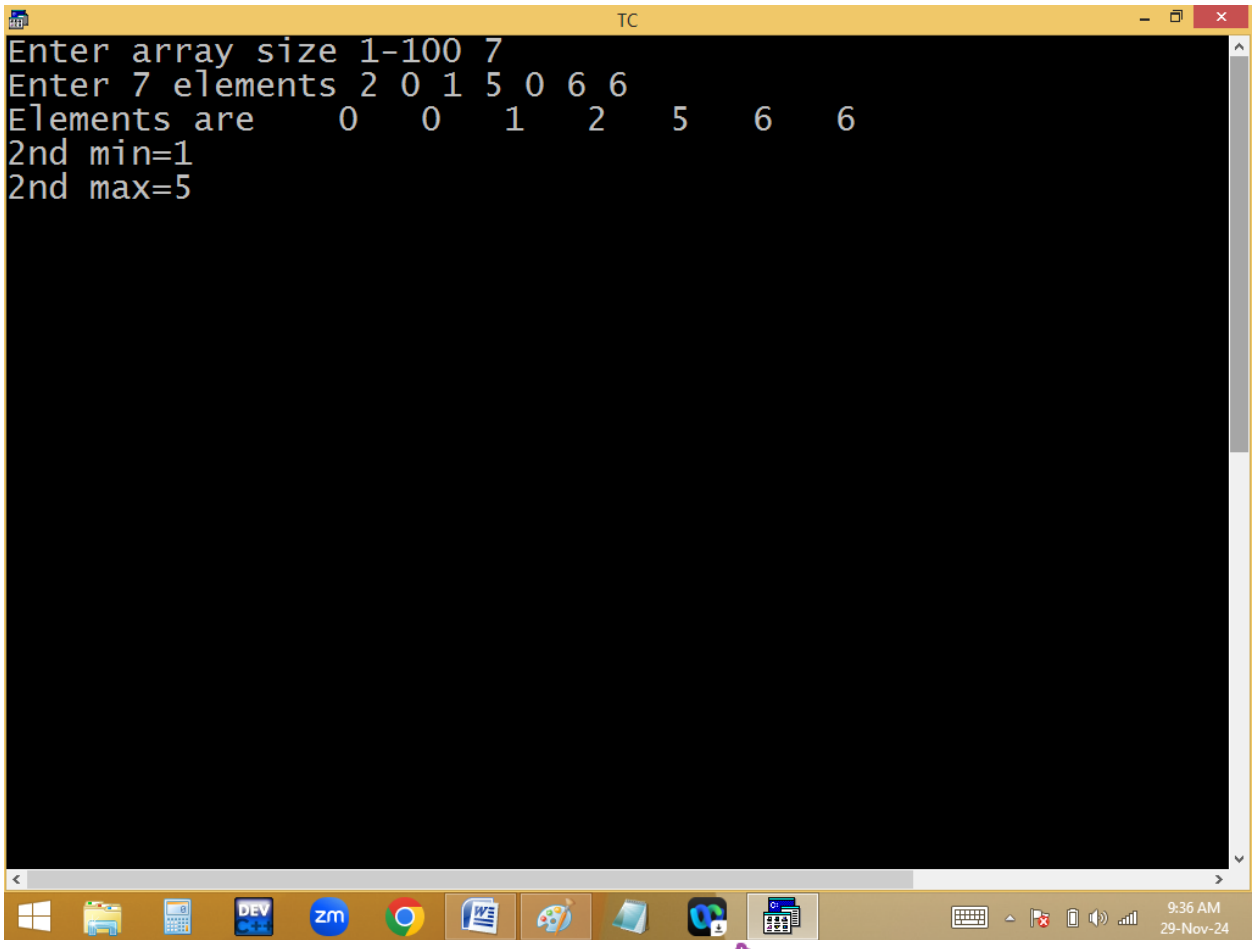
Finding 2nd max, 2nd min elements of array:


TC
File Edit Run Compile Project Options Debug
Line 2 Col 19 Insert Indent Tab Fill Unindent * E
#include<stdio.h> #include<conio.h>
void main()
{
int a[100],i,n,j,t; clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);
for(i=0;i<n;i++)scanf("%d",&a[i]);
for(i=0;i<=n-2;i++)
{
for(j=0;j<=n-i-2;j++)
{
if(a[j]>a[j+1]){t=a[j];a[j]=a[j+1];a[j+1]=t;}
}
}
printf("Elements are ");
for(i=0;i<n;i++)printf("%4d",a[i]);
for(i=1;i<n;i++)
{if(a[i]>a[0]){printf("\n2nd min=%d\n",a[i]);break;}}
for(i=n-2;i>=0;i--)
{if(a[i]<a[n-1]){printf("2nd max=%d",a[i]);break;}}
getch();
}
9:35 AM
29-Nov-24


TC
Enter array size 1-100 9
Enter 9 elements 5 0 4 -1 7 3 9 1 -1
Elements are -1 -1 0 1 3 4 5 7 9
2nd min=0
2nd max=7
9:36 AM
29-Nov-24




```
for( i=1; i<5;i++ )
{
if( a[i]>a[0])p("2nd
min=%d",a[i]);break;
}

for( i=n-2; i>=0; i-- )
{
if(a[i]<a[n-1])p(2nd max=a[i]);break;
}
```

n = 5, i = 3, 2

i = 1, 2

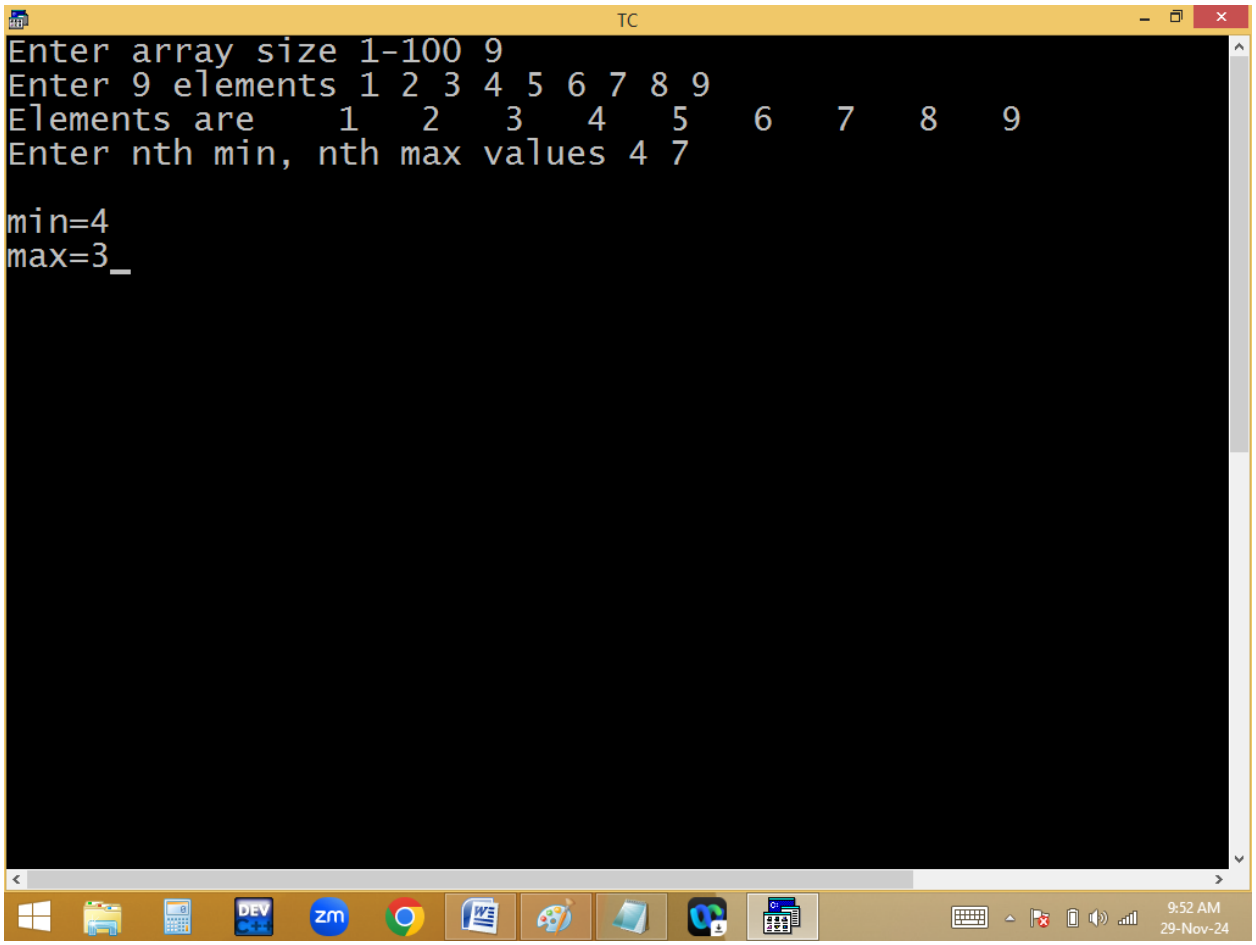
1 1 4 8 8

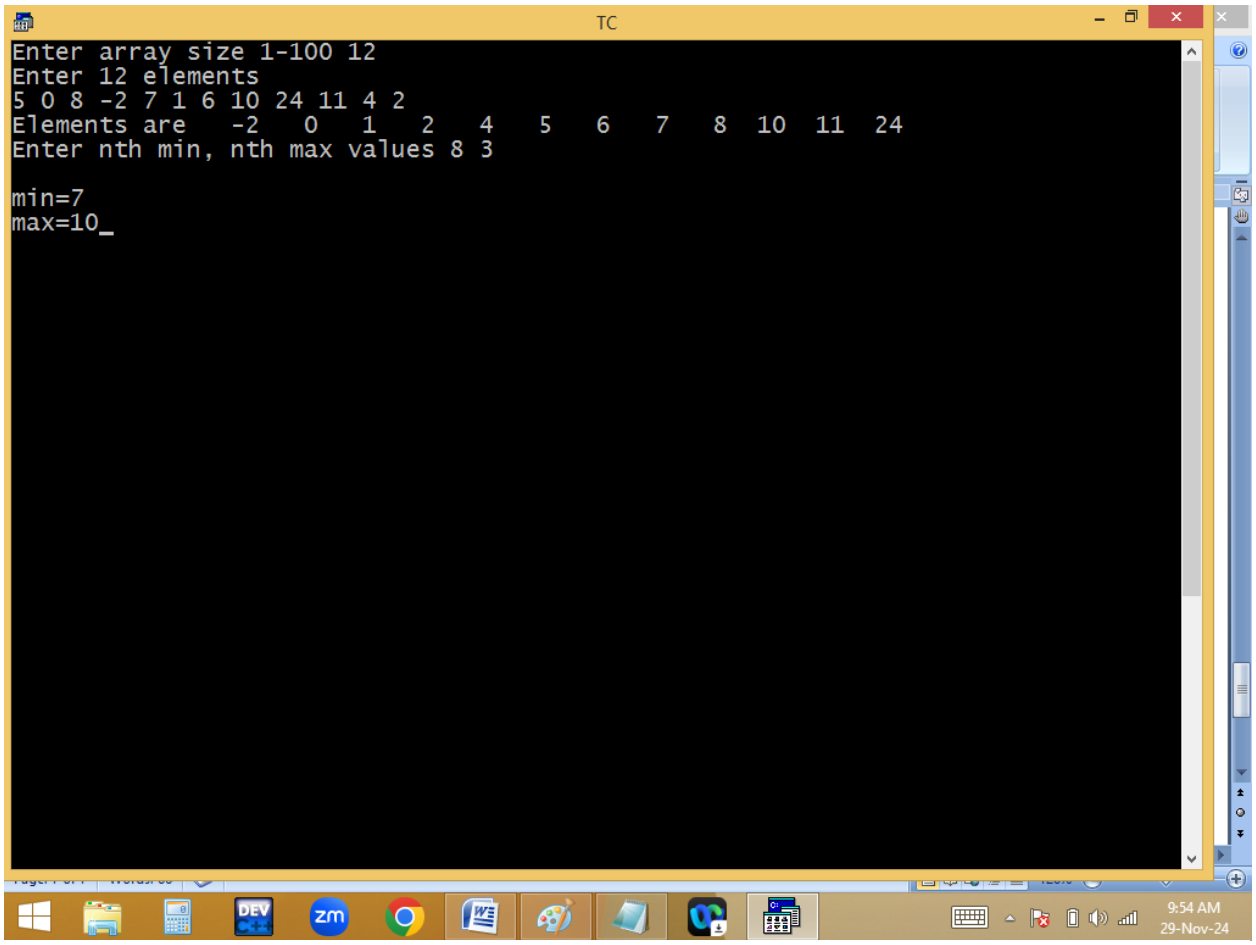
0 1 2 3 4

Find the nth max, nth min array elements.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int  a[100],i,n,j,t,max, min; clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);
for(i=0;i<n;i++)scanf("%d",&a[i]);
for(i=0;i<=n-2;i++)
{
for(j=0;j<=n-i-2;j++)
{
if(a[j]>a[j+1]){t=a[j];a[j]=a[j+1];a[j+1]=t;}
}
}
printf("Elements are ");
for(i=0;i<n;i++)printf("%4d",a[i]);
```

```
printf("\nEnter nth min, nth max values ");
scanf("%d%d",&min,&max);
for(i=1;i<n;i++)
{if(a[i]>a[i-1])
{min--;if(min==1){printf("\nmin=%d\n",a[i]);break;}}}
for(i=n-2;i>=0;i--)
{if(a[i]<a[i+1])
{max--;if(max==1){printf("max=%d",a[i]);break;}}}
getch();
}
```


TC
Enter array size 1-100 9
Enter 9 elements 1 2 3 4 5 6 7 8 9
Elements are 1 2 3 4 5 6 7 8 9
Enter nth min, nth max values 4 7
min=4
max=3
9:52 AM
29-Nov-24




```
for( i=1;i<n;i++ )
if(a[i]>a[i-1])min--;
if(min==1)p("3rd min=%d",a[i]);break;

for( i=n-2;i>=0;i--)
{
if(a[i]<a[i+1]) max--;
if(max==1)p("5thmax=%d",a[i]);break;
}
```

3rd min 5max

a	1	2	4	7	8	12	13	20	21
	0	1	2	3	4	5	6	7	8

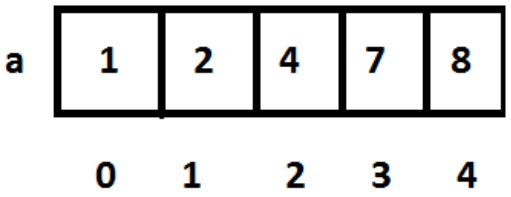
n	i	min	max	i
9	1	3	5	7
	2 ✓	2	4	6
		1 ✓	3	5
			2	4
			1	

Deleting array element:

1. Skipping

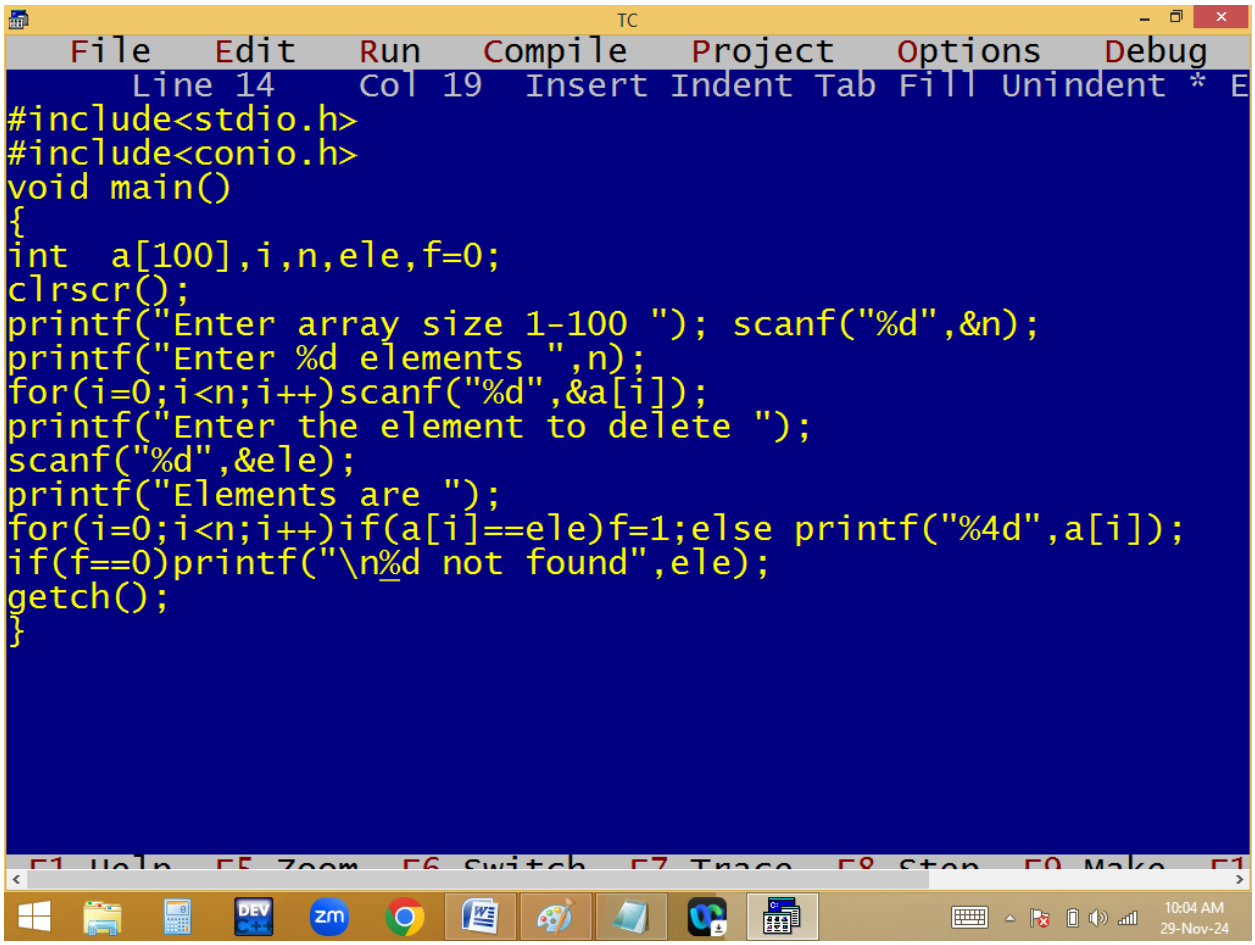
```
for( i=0;i<n;i++ )
if(a[i]!=ele)p(a[i]);
```

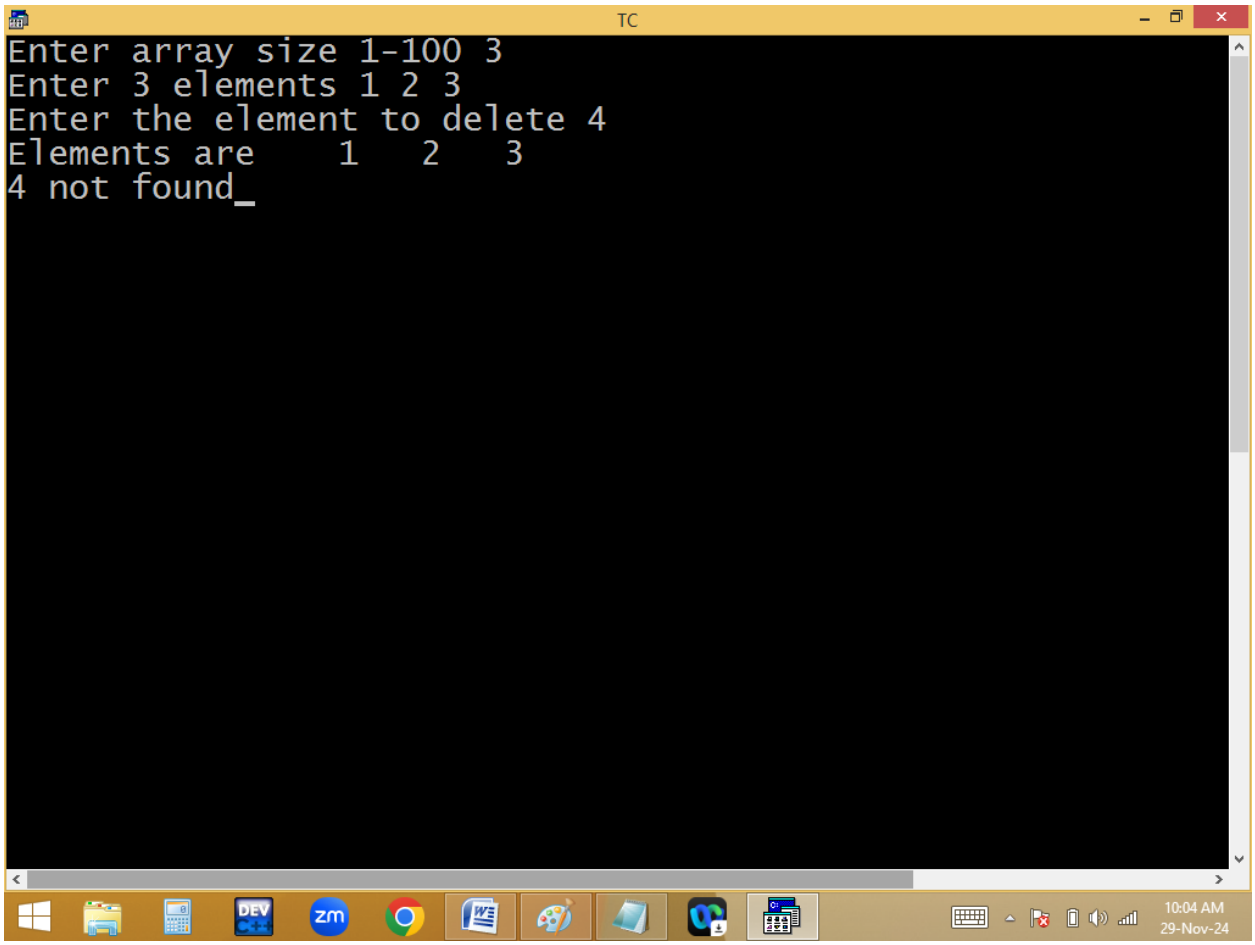
1 2 7 8

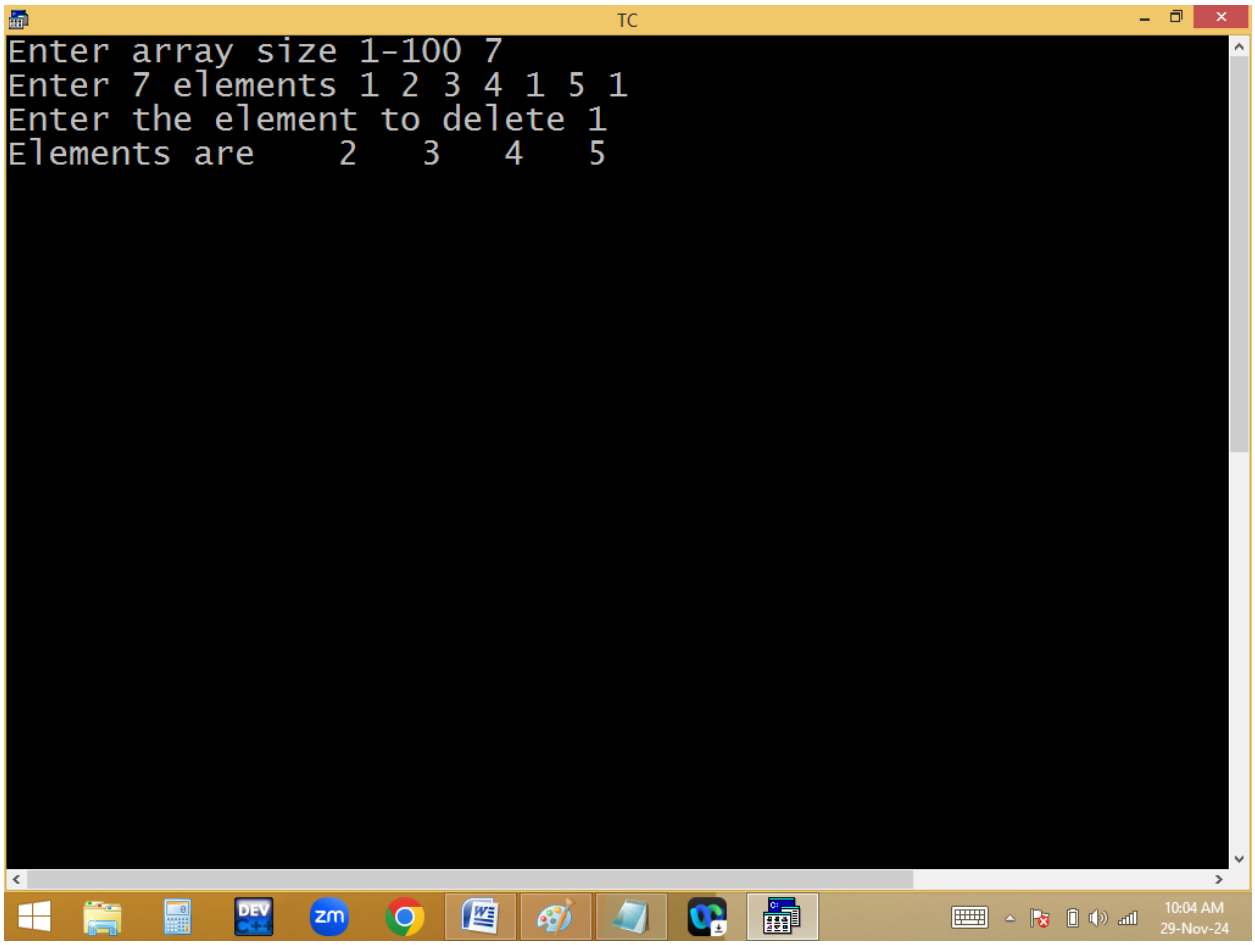


ele
4

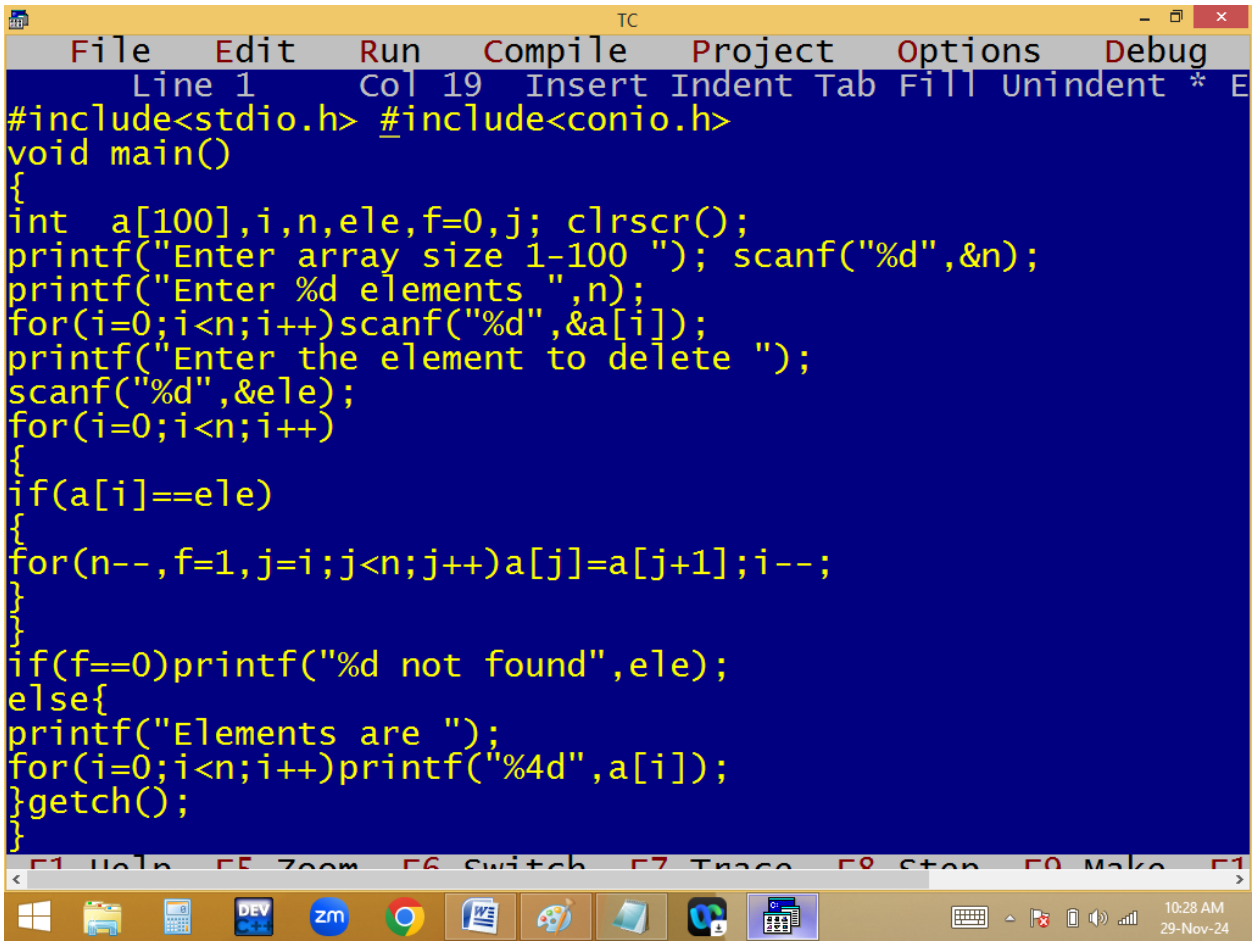
i
0 1 2 3 4

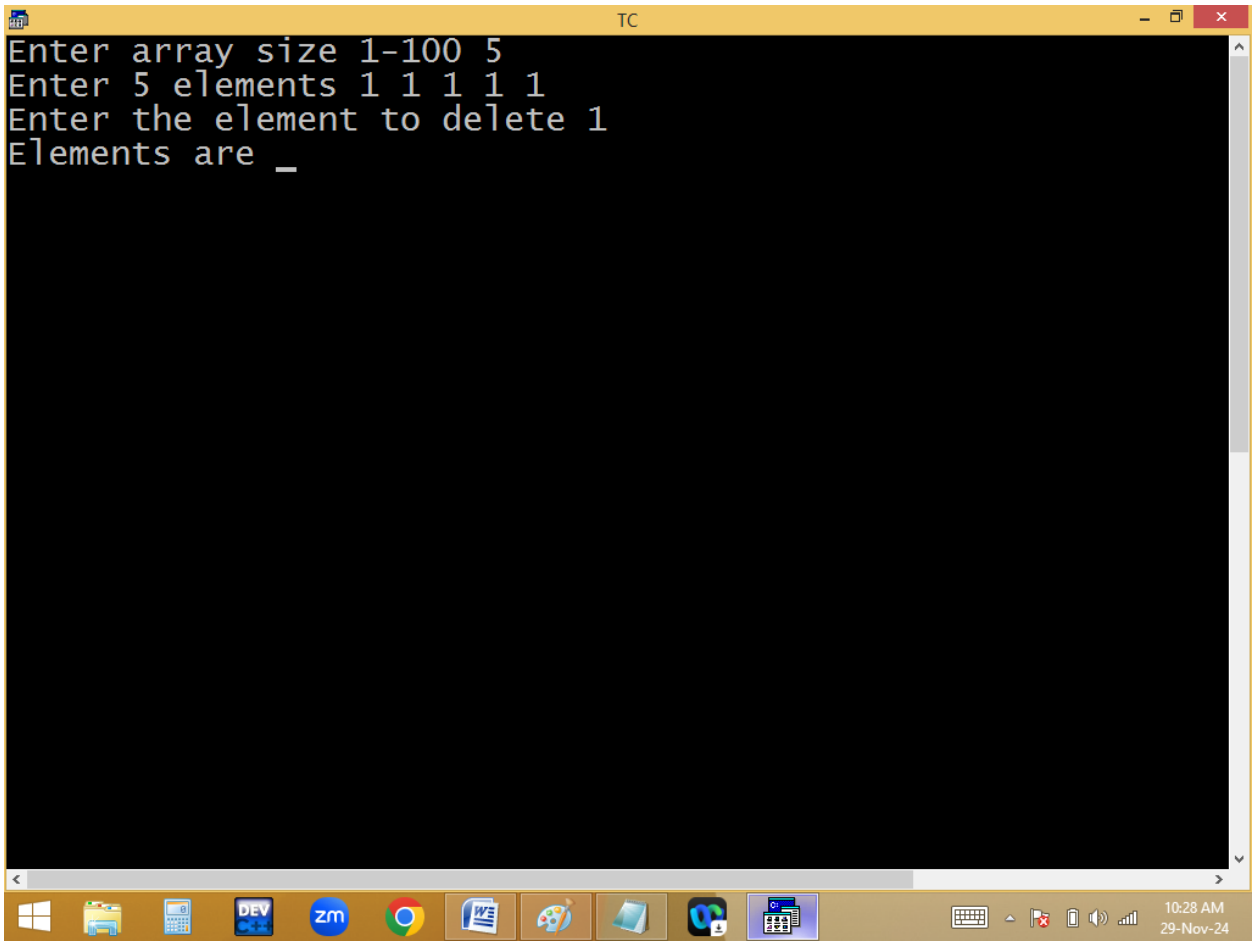

TC
File Edit Run Compile Project Options Debug
Line 14 Col 19 Insert Indent Tab Fill Unindent * E
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],i,n,ele,f=0;
clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);
for(i=0;i<n;i++)scanf("%d",&a[i]);
printf("Enter the element to delete ");
scanf("%d",&ele);
printf("Elements are ");
for(i=0;i<n;i++)if(a[i]==ele)f=1;else printf("%4d",a[i]);
if(f==0)printf("\n%d not found",ele);
getch();
}
10:04 AM
29-Nov-24

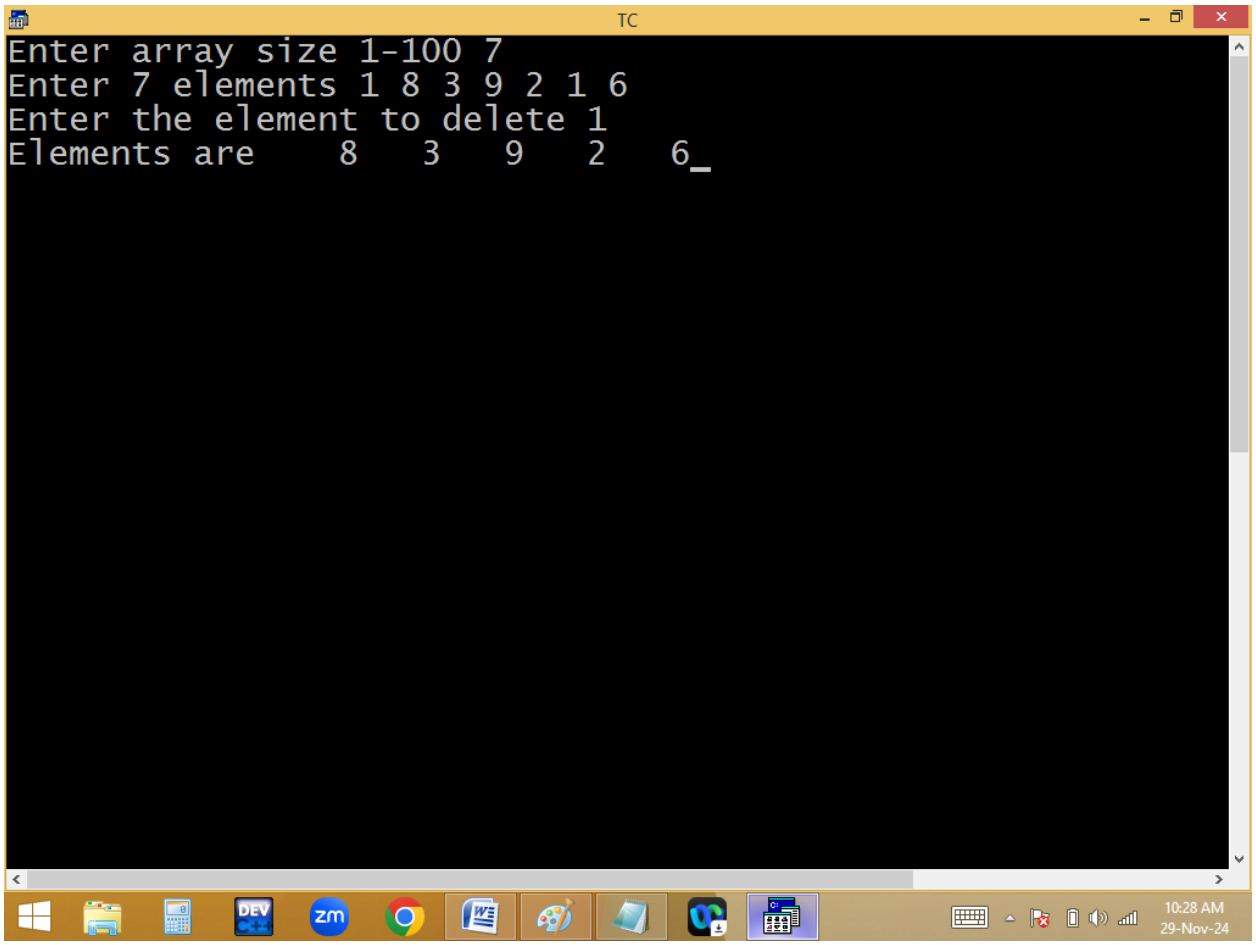

TC
Enter array size 1-100 3
Enter 3 elements 1 2 3
Enter the element to delete 4
Elements are 1 2 3
4 not found
10:04 AM
29-Nov-24

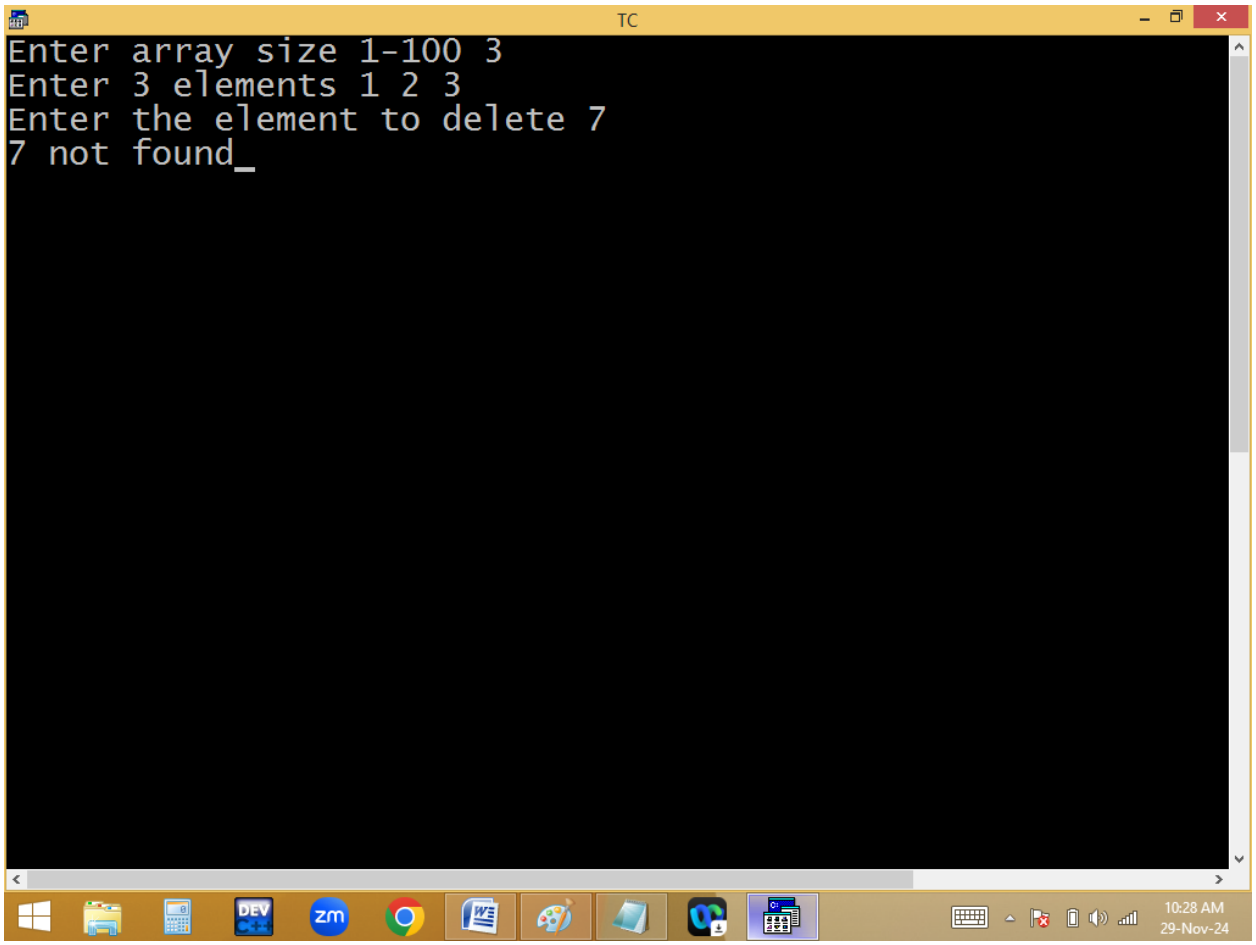


2. Permanent deletion [left shifting or array elements [pop] :


TC
File Edit Run Compile Project Options Debug
Line 1 Col 19 Insert Indent Tab Fill Unindent * E
#include<stdio.h> #include<conio.h>
void main()
{
int a[100],i,n,ele,f=0,j; clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);
for(i=0;i<n;i++)scanf("%d",&a[i]);
printf("Enter the element to delete ");
scanf("%d",&ele);
for(i=0;i<n;i++)
{
if(a[i]==ele)
{
for(n--,f=1,j=i;j<n;j++)a[j]=a[j+1];i--;
}
}
if(f==0)printf("%d not found",ele);
else{
printf("Elements are ");
for(i=0;i<n;i++)printf("%4d",a[i]);
}getch();
}
10:28 AM
29-Nov-24

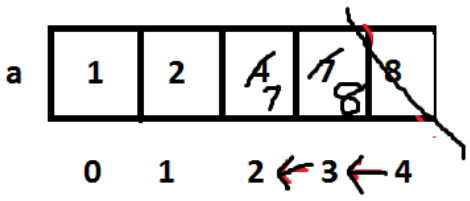

TC
Enter array size 1-100 5
Enter 5 elements 1 1 1 1 1
Enter the element to delete 1
Elements are _
10:28 AM
29-Nov-24

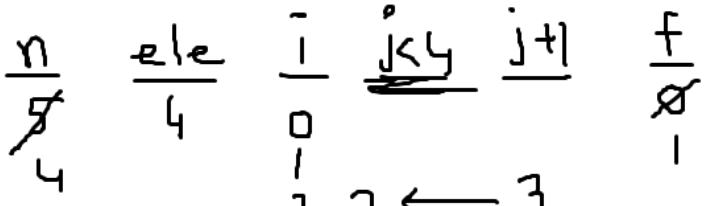

TC
Enter array size 1-100 7
Enter 7 elements 1 8 3 9 2 1 6
Enter the element to delete 1
Elements are 8 3 9 2 6
10:28 AM
29-Nov-24

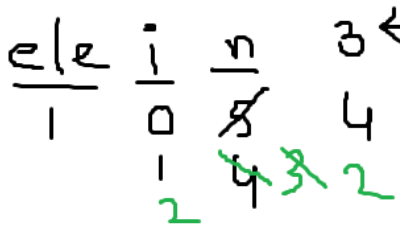


Left shifting of array elements/ POP

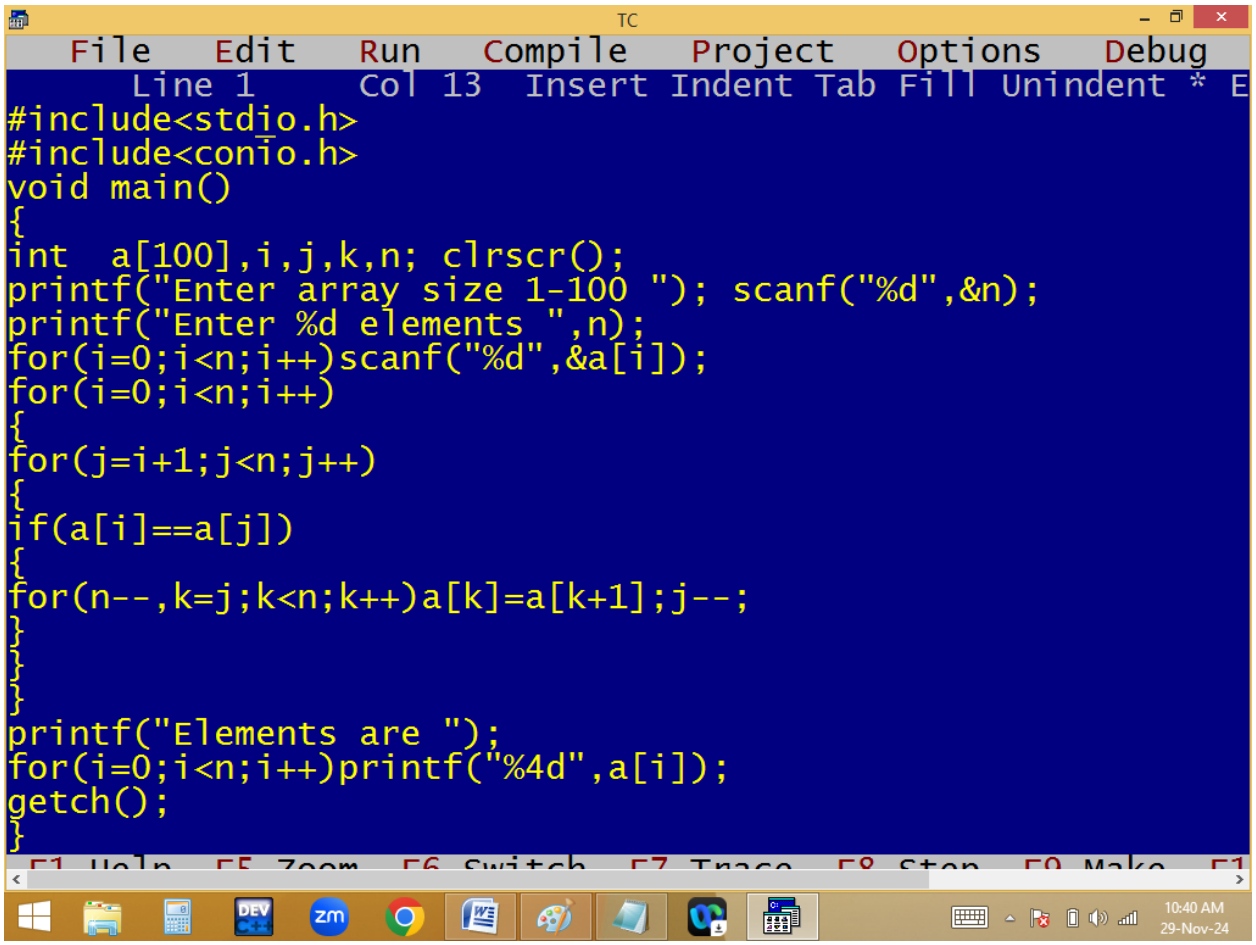
```
for( i=0;i<n;i++ )

if(a[i]==ele)
{
for(n-- ,f=1,j=i; j<n;j++)a[j]=a[j+1];
}
```

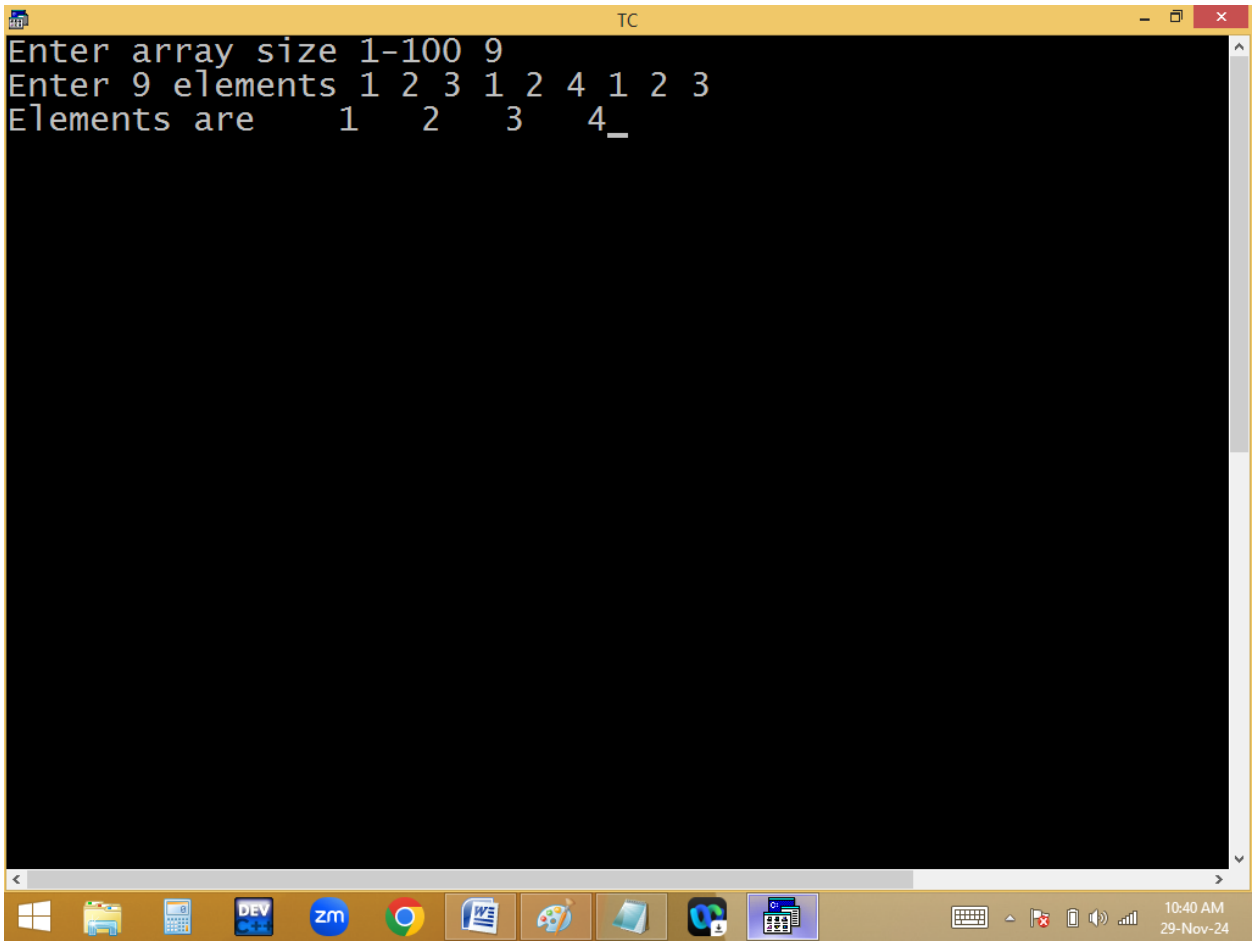




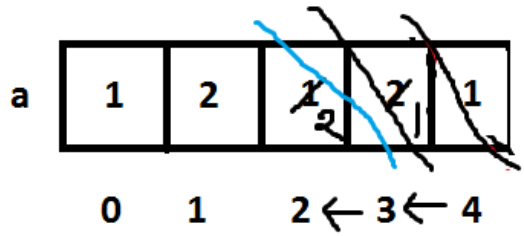


Deleting duplicate elements from array:


TC
File Edit Run Compile Project Options Debug
Line 1 Col 13 Insert Indent Tab Fill Unindent * E
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],i,j,k,n; clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);
for(i=0;i<n;i++)scanf("%d",&a[i]);
for(i=0;i<n;i++)
{
for(j=i+1;j<n;j++)
{
if(a[i]==a[j])
{
for(n--,k=j;k<n;k++)a[k]=a[k+1];j--;
}
}
}
printf("Elements are ");
for(i=0;i<n;i++)printf("%4d",a[i]);
getch();
}
10:40 AM
29-Nov-24


TC
Enter array size 1-100 9
Enter 9 elements 1 2 3 1 2 4 1 2 3
Elements are 1 2 3 4
10:40 AM
29-Nov-24

```
for( i=0; i<n;i++)
{
for( j=i+1; j<n;j++)
{
 if(a[i]==a[j])
 {
for(n--,k=j ;k<n;k++)a[k]=a[k+1];
 }
 }
 }
```



n	i	j	k	k+1
5	0	1	2	3
		2	3	4
4		3	3	
3				
2				
1				

Merging of arrays: