

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();
}
```

F1 Help F5 Zoom F6 Switch F7 Trace F8 Stop F9 Make F10

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
```

```

Enter array size 1-100 7
Enter 7 elements 2 0 1 5 0 6 6
Elements are    0    0    1    2    5    6    6
2nd min=1
2nd max=5

```

```

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

```

$\frac{1}{5}$ $\frac{1}{3}$
 $\frac{1}{2}$

```

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

```

$\frac{1}{2}$
2

1 $\frac{1}{1}$ 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_
```



```

Enter array size 1-100 12
Enter 12 elements
5 0 8 -2 7 1 6 10 24 11 4 2
Elements are -2 0 1 2 4 5 6 7 8 10 11 24
Enter nth min, nth max values 8 3

min=7
max=10_

```

```

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
<u>n</u>		<u>i</u>	<u>min</u>		<u>max</u>			<u>i</u>	
9		1	2		5			7	
		2 ✓	2		4			6	
			1 ✓		3			5	
					2			4	
					1				

Deleting array element:

1. Skipping

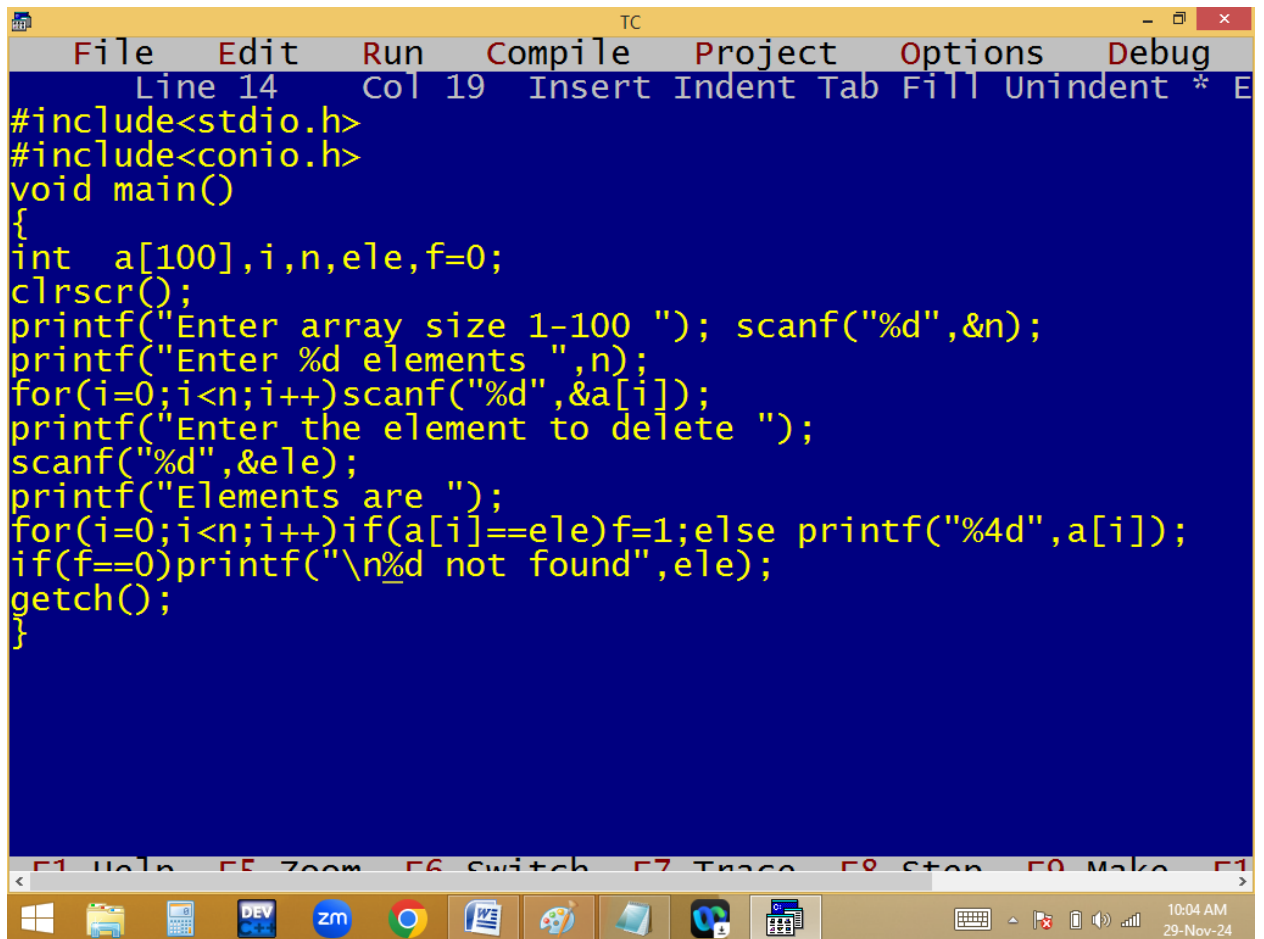
```
for( i=0;i<n;i++ )
```

```
if(a[i]!=ele)p(a[i]);
```

1 2 7 8

a	1	2	4	7	8
	0	1	2	3	4

ele i
4 0 1 2 3 4

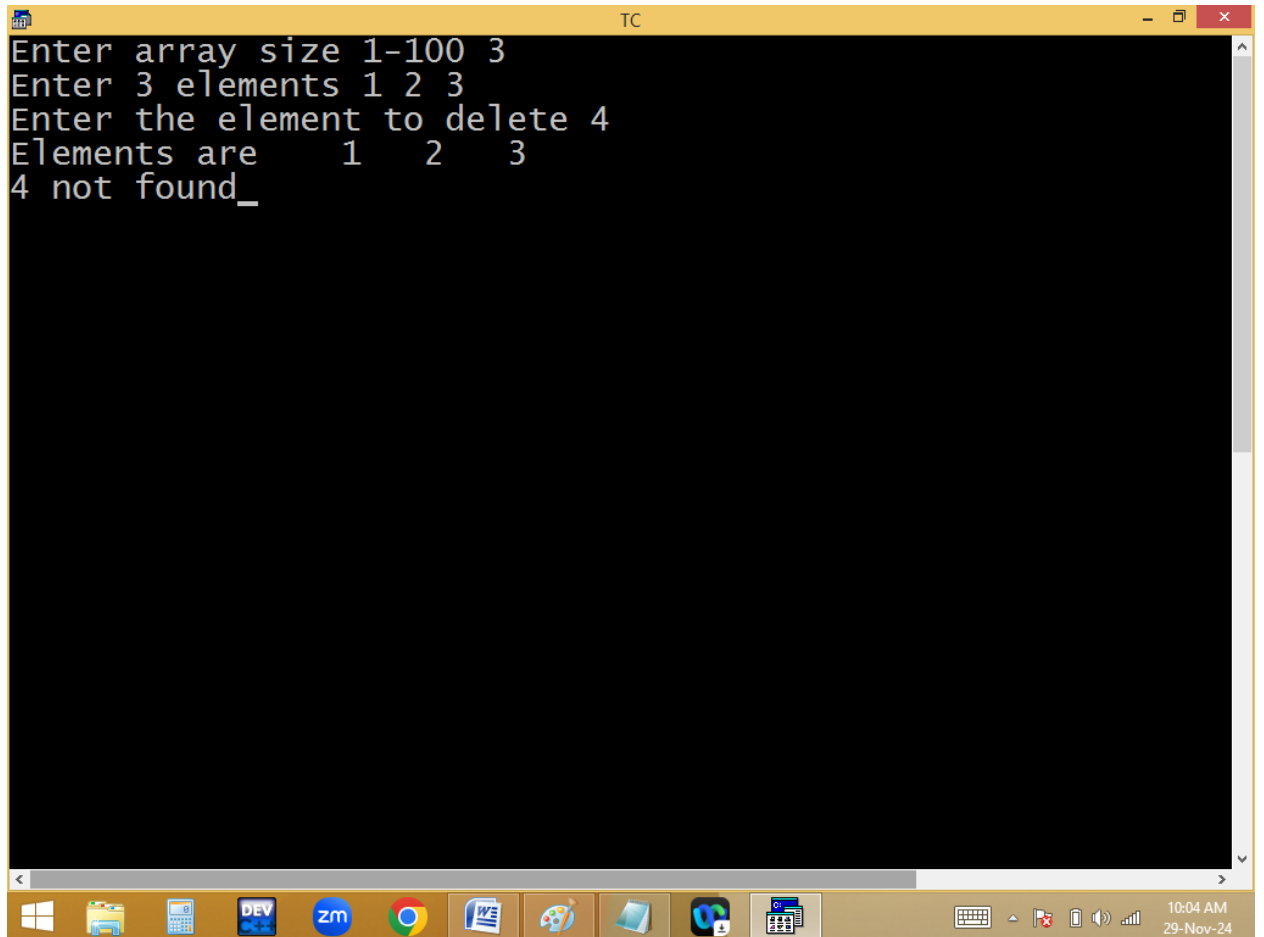


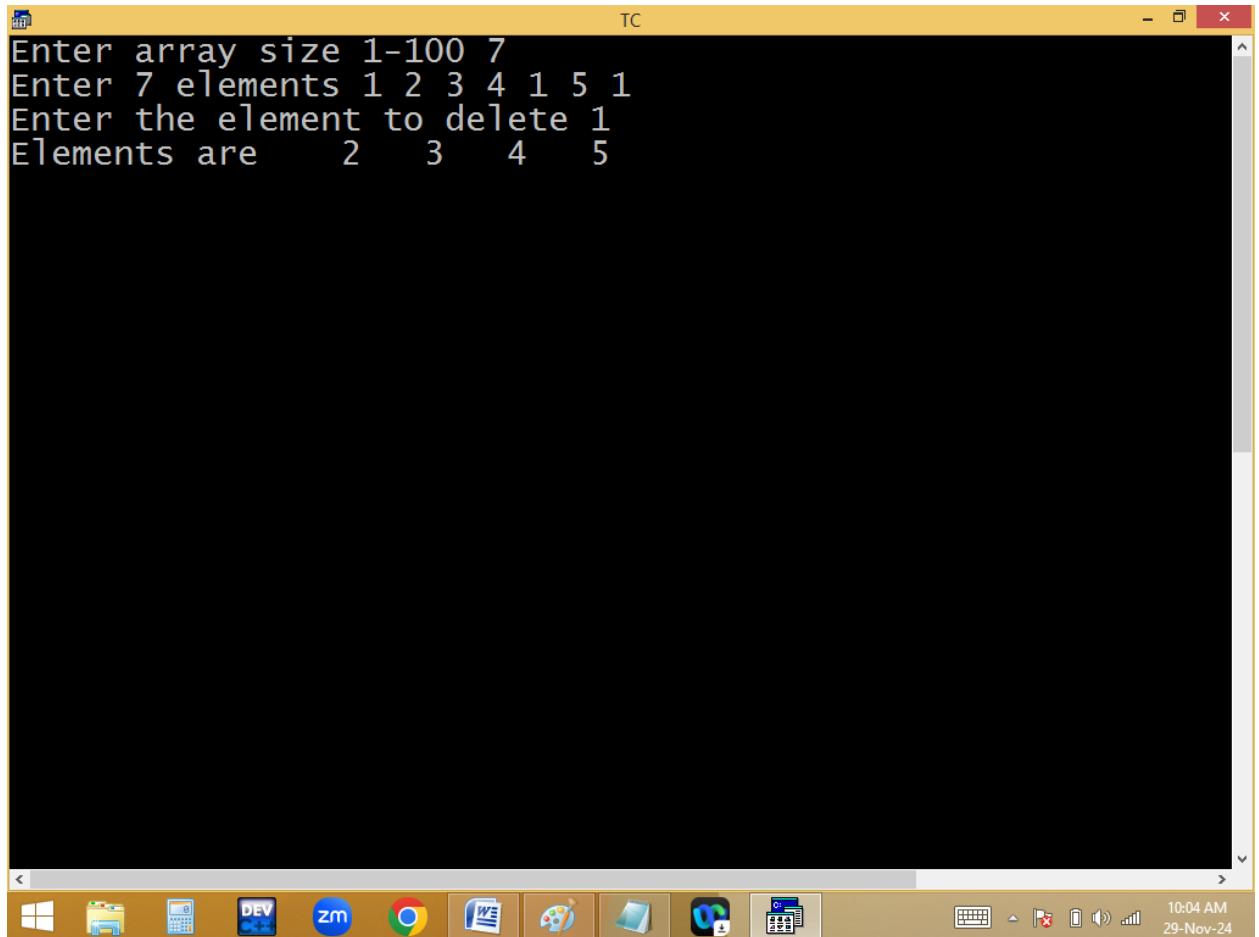
The image shows a screenshot of a Turbo C++ (TC) IDE window. The window has a yellow title bar with the text "TC" and standard window controls. Below the title bar is a menu bar with the following options: File, Edit, Run, Compile, Project, Options, and Debug. A status bar at the top of the editor area shows "Line 14 Col 19" and a list of keyboard shortcuts: Insert, Indent, Tab, Fill, Unindent, *, and E. The main editor area has a dark blue background and contains the following C code:

```
#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();
}
```

At the bottom of the window is a Windows taskbar with various application icons including Windows Explorer, Calculator, DEV C++, Zoom, Google Chrome, Word, Paint, and a folder icon. The system tray on the right shows the date and time: "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_
```





The screenshot shows a Turbo C++ (TC) window with a black background and white text. The text displays the execution of a program that prompts for an array size, enters 7 elements (1 2 3 4 1 5 1), and then prompts for an element to delete (1). The output shows the remaining elements: 2 3 4 5. The window's title bar is yellow and labeled 'TC'. The Windows taskbar at the bottom includes icons for various applications and shows the system clock as 10:04 AM on 29-Nov-24.

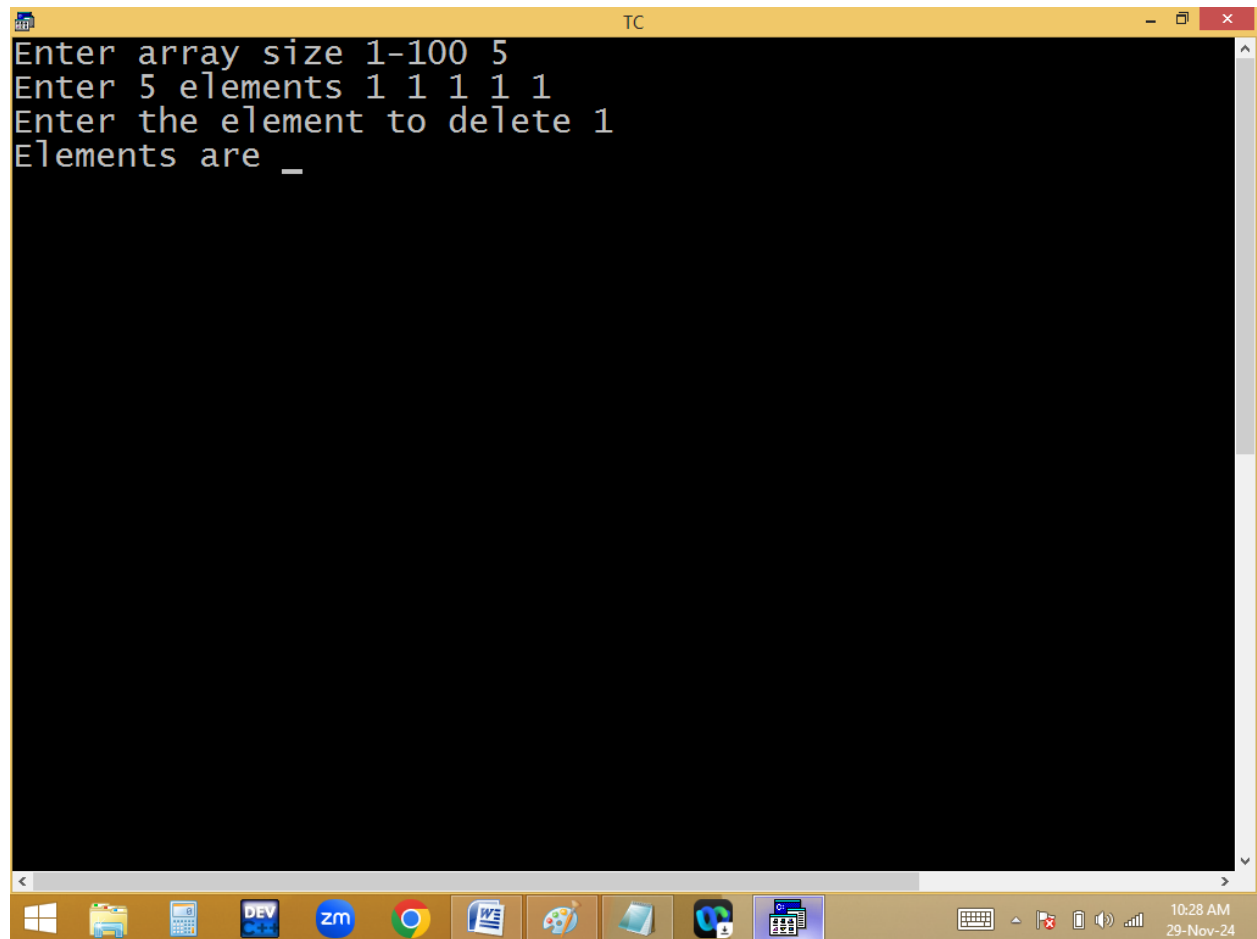
```
Enter array size 1-100 7
Enter 7 elements 1 2 3 4 1 5 1
Enter the element to delete 1
Elements are      2      3      4      5
```

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();
}
```

F1 Help F5 Zoom F6 Switch F7 Trace F8 Stop F9 Make F10

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_
```

```

Enter array size 1-100 3
Enter 3 elements 1 2 3
Enter the element to delete 7
7 not found_

```

Left shifting of array elements/ POP

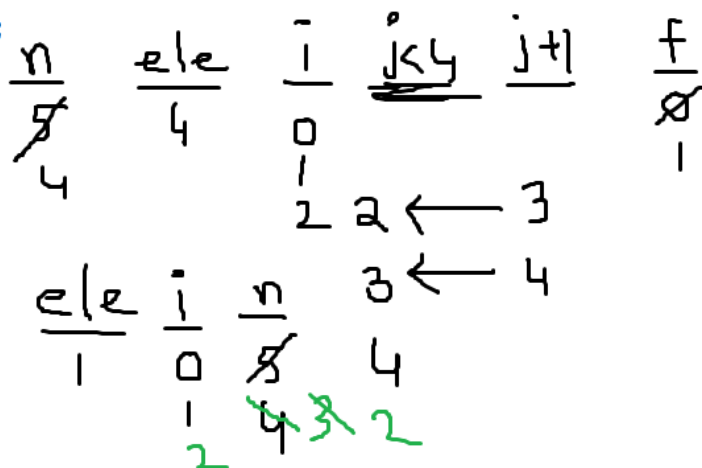
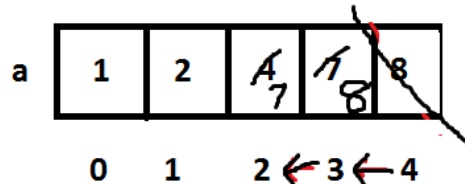
for(i=0; i<n; i++)

if(a[i]==ele)

{

for(n--, f=1, j=i; j<n; j++) a[j]=a[j+1];

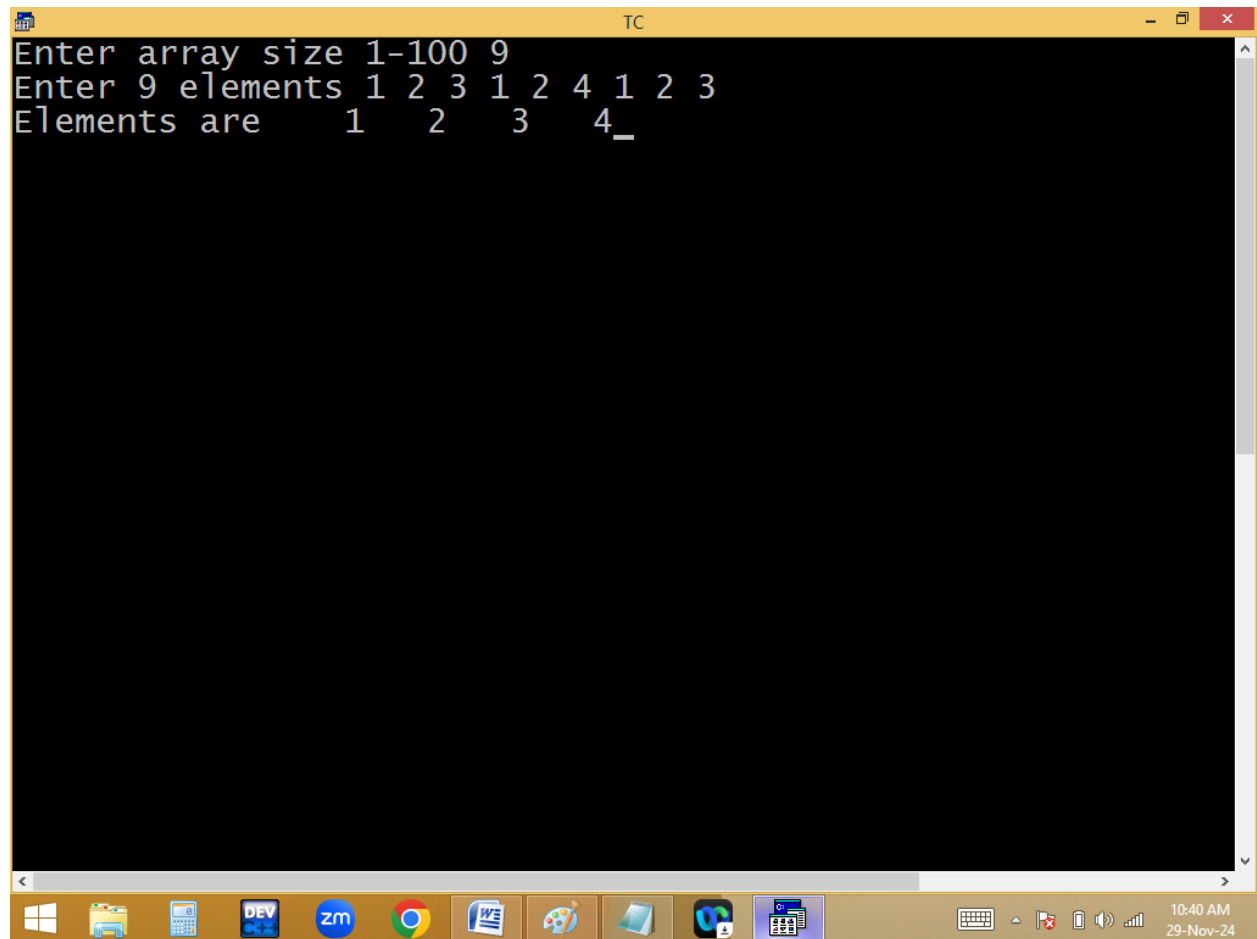
}



Deleting duplicate elements from array:

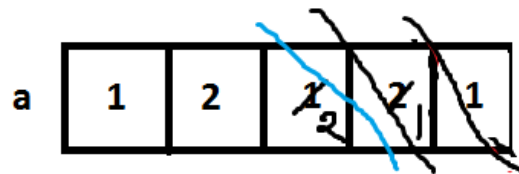
```
TC
File Edit Run Compile Project Options Debug
Line 1 Col 13 Insert Indent Tab Fill Unindent * E
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],i,j,k,n; clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);
for(i=0;i<n;i++)scanf("%d",&a[i]);
for(i=0;i<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();
}
F1 Help F5 Zoom F6 Switch F7 Trace F8 Stop F9 Make F10
```

```
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_
```



The image shows a Windows 10 desktop environment. A Turbo C++ (TC) window is open, displaying a program that prompts the user to enter an array size (1-100) and 9 elements. The user has entered '9' for the size and '1 2 3 1 2 4 1 2 3' for the elements. The program has printed 'Elements are 1 2 3 4_'. The taskbar at the bottom contains icons for Windows, File Explorer, Calculator, DEV C++, Zoom, Google Chrome, Word, Paint, Notepad, and a folder. The system tray on the right shows the time as 10:40 AM on 29-Nov-24.

n	i	j	k	$k+1$
5	0	1		
4		<u>2</u>	2 ← 3	
3			3	4
2		3	3	
	1	2		



0 1 2 ← 3 ← 4

$$\underline{j} \quad \underline{k} \quad \underline{k+1}$$
$$\begin{array}{cc} 1 & \\ \underline{2} & 2 \leftarrow 3 \\ & 3 \quad 4 \end{array}$$

3 3

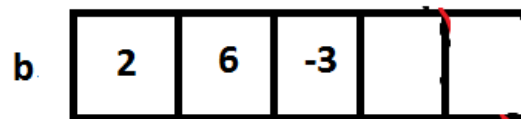
1. 2

sim card



0 1 2 ← 3 4

external



0 1 2 ← 3 4

export

