

Finding nth min, nth max elements of array:

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

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

```
void main()
```

```
{
```

```
int a[100], i,j, n, max, min, temp;
```

```
clrscr();
```

```
printf("Enter array size 1 - 100 ");scanf("%d",&n);
```

```
printf("Enter %d integers",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]){ temp=a[j]; a[j]=a[j+1];a[j+1]=temp;}
```

```
}
```

```
}
```

```
printf("Sorted elements ");
for(i=0;i<n;i++)printf("%4d",a[i]);

printf("\nEnter min, max positions
");scanf("%d %d",&min,&max);

for(i=1;i<n;i++)

{if(a[i]>a[i-1])min--;

if(min==1){printf("Min=%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();

}
```

```

Enter array size 1 - 100 9
Enter 9 integers 2 0 1 7 0 4 -3 9 5
Sorted elements -3 0 0 1 2 4 5 7 9
Enter min, max positions 4 6
Min=2
Max=1_

```

```

for( i=1; i<6; 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("5th max=%d",a[i]);break;
}

```

$\frac{i}{1}$ $\frac{i-1}{0}$
 $\frac{2}{1}$ $\frac{1}{1}$

✓

a	3	<u>6</u>	<u>7</u>	9	12	15
	0	1	2	3	4	5
7						
<u>min</u>			<u>max</u>			
3			5			
2			4		7	1
1			3		6	4
			2			3
			1			2

Linear search:

```
TC
#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 integers",n); for(i=0;i<n;i++)scanf("%d",&a[i]);
printf("Enter element to search "); scanf("%d",&ele);
for(i=0;i<n;i++)
{
if(a[i]==ele) printf("%d in %d cell\n",ele,i+1,f=1);
}
if(f==0)printf("%d not found",ele);
getch();
}
```

Enter element to search 2
2 in 1 cell
2 in 5 cell
2 in 8 cell

TC

```
TC
Enter array size 1 - 100 5
Enter 5 integers 1 2 3 4 5
Enter element to search 9
9 not found
```

```
for( i=1; i<6; i++ )
{
    if(a[i]==ele) p("%d in %d cell\n",ele,i+1,f=1);
} 7 3

if(f==0)p("ele not found");
```

a	3	6	7	9	12	15
	0	1	2	3	4	5
n	i	ele	f			
6	0	7	0			
	1					
	2	+	1			

Finding element index no:

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

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

```
void main()
```

```
{
```

```
int a[100], i,n,ele,f=0;
```

```
clrscr();

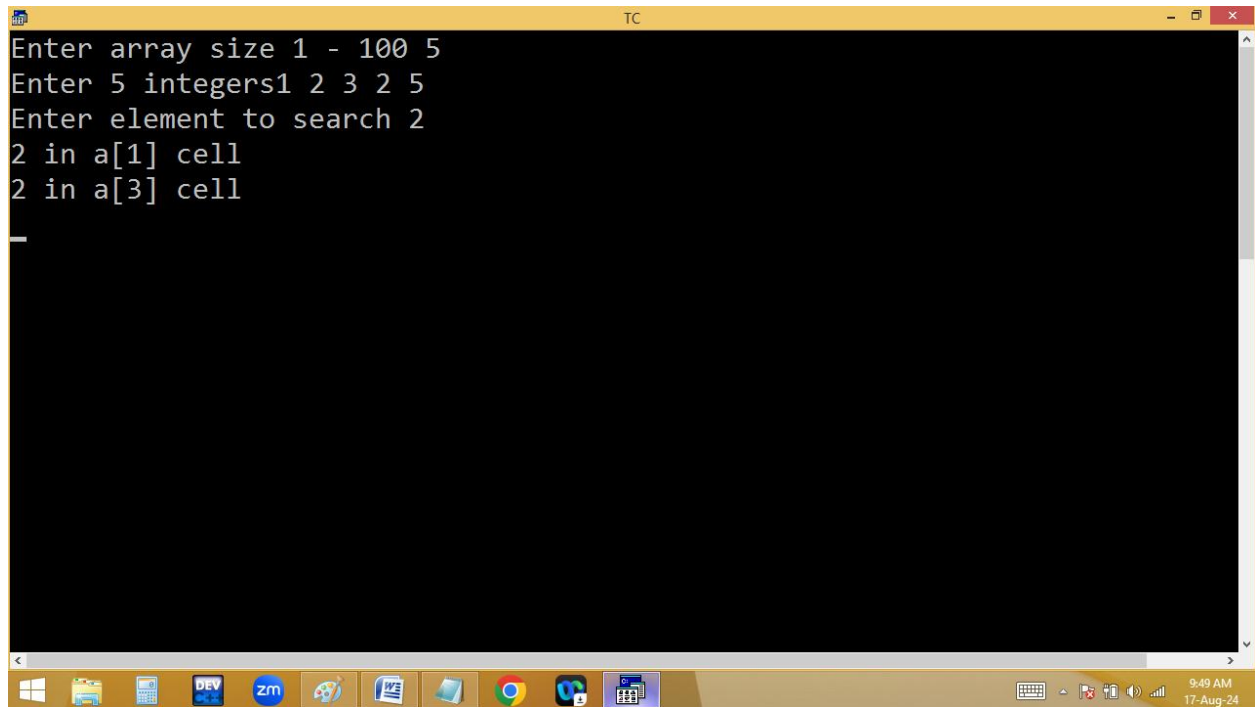
printf("Enter array size 1 - 100 ");scanf("%d",&n);

printf("Enter %d integers",n);
for(i=0;i<n;i++)scanf("%d",&a[i]);

printf("Enter element to search "); scanf("%d",&ele);
for(i=0;i<n;i++)
{
if(a[i]==ele) printf("%d in a[%d] cell\n",ele,i,f=1);
}

if(f==0)printf("%d not found",ele);

getch();
}
```



The screenshot shows a Turbo C++ (TC) window with a black background and white text. The text displays the results of a search operation on an array. The window title bar reads 'TC'. The text content is as follows:

```
Enter array size 1 - 100 5
Enter 5 integers1 2 3 2 5
Enter element to search 2
2 in a[1] cell
2 in a[3] cell
```

The Windows taskbar is visible at the bottom, showing various application icons and the system clock indicating 9:49 AM on 17-Aug-24.

Inserting a new element into array [push-right shifting of array elements]:

```
TC
Line 1      Col 27  Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int  a[100], i,n,ele,pos; clrscr();
printf("Enter array size 1 - 100 ");scanf("%d",&n);
printf("Enter %d integers",n); for(i=0;i<n;i++)scanf("%d",&a[i]);
printf("Enter new element and position "); scanf("%d%d",&ele,&pos);
if(pos<1||pos>n+1)printf("position 1 to %d only",n+1);
else{
for(i=n;i>=pos;i--)a[i]=a[i-1];
a[i]=ele;
printf("Elements are ");
for(i=0;i<=n;i++)printf("%4d",a[i]);}
getch();
}
```

Enter array size 1 - 100 3
Enter 3 integers1 2 3
Enter new element and position 4 4
Elements are 1 2 3 4

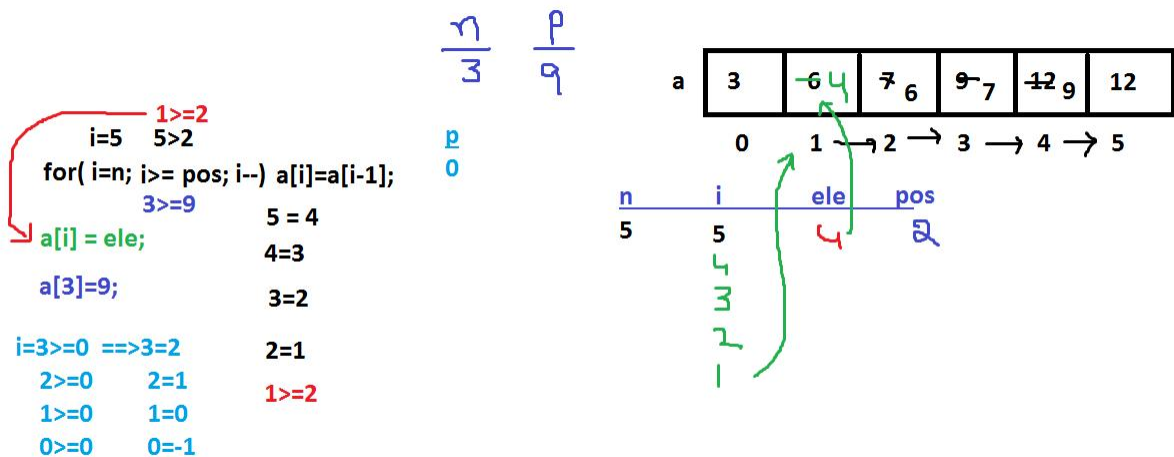

```
TC
Enter array size 1 - 100 3
Enter 3 integers1 2 3
Enter new element and position 5 5
position 1 to 4 only
```

```
TC
Enter array size 1 - 100 3
Enter 3 integers1 2 3
Enter new element and position 0 0
position 1 to 4 only_
```

```

Enter array size 1 - 100 5
Enter 5 integers 1 2 3 4 5
Enter new element and position 9
9
position 1 to 6 only

```



Deleting array element:

1. Skipping method

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a C program. The code includes `<stdio.h>` and `<conio.h>`, and defines a `main` function. Inside `main`, an array `a` of size 100 is declared. The program prompts the user to enter the array size (1-100), then the number of integers to enter. It then reads the integers into the array. Next, it prompts for an element to delete and reads it. Finally, it prints the elements of the array, skipping the element to be deleted. The bottom window shows the program's execution with sample input and output.

```
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 11 Insert Indent Tab Fill Unindent * E:9AM.C
#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 integers",n); for(i=0;i<n;i++)scanf("%d",&a[i]);
    printf("Enter element to delete "); scanf("%d",&ele);
    printf("Elements are ");
    for(i=0;i<n;i++)if(a[i]!=ele) printf("%4d",a[i]); else f=1;
    if(f==0)printf("\n%d not found",ele);
    getch();
}
```

Enter array size 1 - 100 5
Enter 5 integers1 2 3 2 4
Enter element to delete 2
Elements are 1 3 4

```
TC
Enter array size 1 - 100 3
Enter 3 integers1 2 3
Enter element to delete 7
Elements are 1 2 3
7 not found
```

```
for( i=0; i<5; i++ )
if(a[i]!=ele) p(a[i]);
```



Permanent deletion [pop-left shifting of array elements]:

```
#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 integers",n);  
for(i=0;i<n;i++)scanf("%d",&a[i]);  
printf("Enter 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("\n%d not found",ele);  
else  
{printf("Elements are  
");for(i=0;i<n;i++)printf("%4d",a[i]);}  
getch();  
}
```

```
TC
Enter array size 1 - 100 9
Enter 9 integers3 3 3 3 3 3 3 3 3
Enter element to delete 3
Elements are
```

```
TC
Enter array size 1 - 100 5
Enter 5 integers1 2 3 4 1
Enter element to delete 1
Elements are 2 3 4
```

```

Enter array size 1 - 100 3
Enter 3 integers 1 2 3
Enter element to delete 7

7 not found

```

```

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

```

