

Array elements frequency:

```
TC
#include<stdio.h> #include<conio.h>
void main()
{
int a[100], b[100]={0},i,j,c,n;
clrscr();
printf("Enter array size 1-100 ");scanf("%d",&n);
printf("Enter %d elements for array ",n);for(i=0;i<n;i++)scanf("%d",&a[i]);
for(i=0;i<n;i++)
{
c=1;
if(b[i]!=-1)
{
for(j=i+1;j<n;j++){if(a[i]==a[j]){c++; b[j]=-1;}}
}
b[i]=c;
}
}
for(i=0;i<n;i++)if(b[i]!=-1)printf("%d found %d times\n",a[i],b[i]);
getch();
}
```

```
TC
Enter array size 1-100 9
Enter 9 elements for array 1 2 3 4 1 2 3 6 7
1 found 2 times
2 found 2 times
3 found 2 times
4 found 1 times
6 found 1 times
7 found 1 times
```

```

for(i=0;i<6;i++)
{
if(b[i]!=-1) ✗
{
for(c=1,j=i+1;j<6;j++)
{
if(a[i]==a[j]) { c++; b[j] = -1; }
}
b[i]=c;
}
}

```

```

for(i=0;i<6;i++)if(b[i]!=-1)
p("%d found %d times\n",a[i],b[i]);

```

9 2

$$\frac{n}{6} \quad \frac{i < n-2}{4}$$

$$\frac{j < n-1}{5}$$

a	9	5	4	9	1	5
	0	1	2	3	4	5
b	0	0	0	0	0	0
	2	2✓	1✓	1	1	1✓

$\frac{n}{6}$	$\frac{i}{0}$	$\frac{j}{1}$	2	3	4	5	6	$\frac{c}{1}$	1
	1✓	2	3	4	5			2	2
	2	3	4	5	6			1	
	3	4	5						

Arrange array even elements in ascending order and odd elements in descending order:

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 2 Col 1 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100], b[100]={0},i,j,c,n;
clrscr();
printf("Enter array size 1-100 ");scanf("%d",&n);
printf("Enter %d elements for array ",n);for(i=0;i<n;i++)scanf("%d",&a[i]);
for(i=0;i<=n-2;i++)
{
for(j=i+1;j<=n-1;j++){if(a[i]>a[j]){int t=a[i];a[i]=a[j];a[j]=t;}}
}
for(i=0;i<n;i++)if(a[i]%2==0)printf("%4d",a[i]);
for(i=n-1;i>=0;i--)if(a[i]%2!=0)printf("%4d",a[i]);
getch();
}
```

```
TC
Enter array size 1-100 8
Enter 8 elements for array 3 9 10 34 11 7 4 13
4 10 34 13 11 9 7 3_
```

```
for(i=0;i<6;i++)
if(a[i]%2==0)p(a[i]); ➡ 10 22 50
```

```
for(i=5;i>=0;i--)
if(a[i]%2!=0)p(a[i]); 9 7 3
```

a

9	50	3	22	7	10
0	1	2	3	4	5
3	7	9	10	22	50

10 22 50 9 7 3

Half elements in ascending and remaining in descending order:

```

TC
File Edit Run Compile Project Options Debug Break/watch
Line 14 Col 22 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100], b[100]={0},i,j,c,n;
clrscr();
printf("Enter array size 1-100 ");scanf("%d",&n);
printf("Enter %d elements for array ",n);for(i=0;i<n;i++)scanf("%d",&a[i]);
for(i=0;i<=n-2;i++)
{
for(j=i+1;j<=n-1;j++){if(a[i]>a[j]){int t=a[i];a[i]=a[j];a[j]=t;}}
}
for(i=0;i<n/2;i++)printf("%4d",a[i]);
for(i=n-1;i>=n/2;i--)printf("%4d",a[i]);
getch();
}

```

```
TC
Enter array size 1-100 8
Enter 8 elements for array 1 2 3 4 5 6 7 8
  1  2  3  4  8  7  6  5_
```

```
TC
Enter array size 1-100 8
Enter 8 elements for array 2 0 1 7 3 5 -3 9
-3  0  1  2  9  7  5  3
```

```
TC
Enter array size 1-100 7
Enter 7 elements for array 2 9 0 1 4 7 3
0 1 2 9 7 4 3
```

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

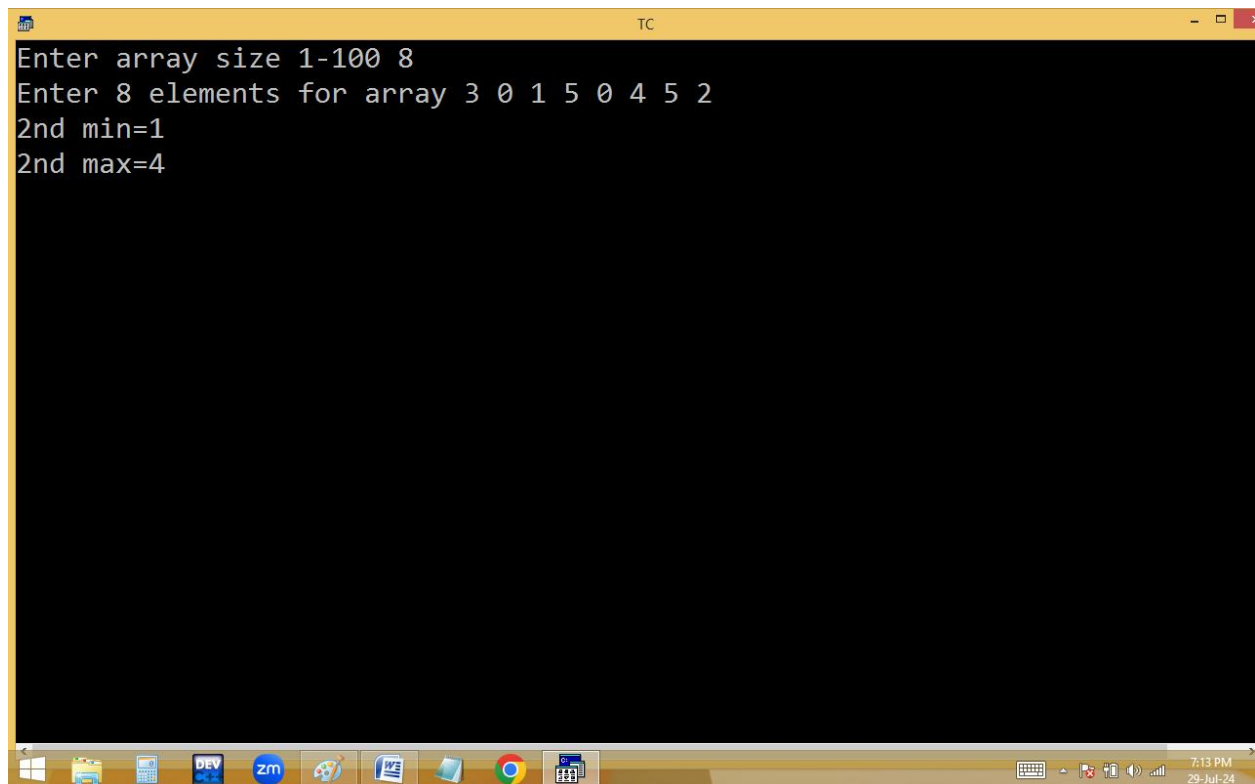
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code of a C program. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. Inside `main`, it declares an array `a` of size 100 and variables `i, j, c, n`. It uses `clrscr()` to clear the screen. It prompts the user to enter the array size (1-100) and reads it into `n`. Then, it prompts the user to enter `n` elements for the array and reads them into `a[i]`. The program then sorts the array using a selection sort algorithm. It finds the 2nd minimum element by iterating from `i=1` to `n-1` and finding the minimum element in the remaining subarray. It also finds the 2nd maximum element by iterating from `i=n-2` down to `0` and finding the maximum element in the remaining subarray. Finally, it prints the 2nd minimum and 2nd maximum elements and uses `getch()` to wait for a key press before exiting.

```
Line 14 Col 62 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100], b[100]={0},i,j,c,n;
clrscr();
printf("Enter array size 1-100 ");scanf("%d",&n);
printf("Enter %d elements for array ",n);for(i=0;i<n;i++)scanf("%d",&a[i]);
for(i=0;i<=n-2;i++)
{
for(j=i+1;j<=n-1;j++){if(a[i]>a[j]){int t=a[i];a[i]=a[j];a[j]=t;}}
}
for(i=1;i<n;i++)if(a[i]>a[0]){printf("2nd min=%d\n",a[i]);break;}
for(i=n-2;i>=0;i--)if(a[i]<a[n-1]){printf("2nd max=%d\n",a[i]);break;}

getch();
}
```

The bottom window shows the output of the program. It displays the prompts and the user's input. The user entered 8 for the array size and 1 1 2 4 6 7 8 8 for the array elements. The program then outputs the 2nd minimum element as 2 and the 2nd maximum element as 7.

```
Enter array size 1-100 8
Enter 8 elements for array 1 1 2 4 6 7 8 8
2nd min=2
2nd max=7
```

```
TC
Enter array size 1-100 8
Enter 8 elements for array 3 0 1 5 0 4 5 2
2nd min=1
2nd max=4
```

Finding nth max, nth min array element:

3rd min, 4th max

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

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

```
void main()
```

```
{
```

```
int a[100], b[100]={0},i,j,max,min,n;
```

```
clrscr();
```

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

```
printf("Enter %d elements for array ",n);
```

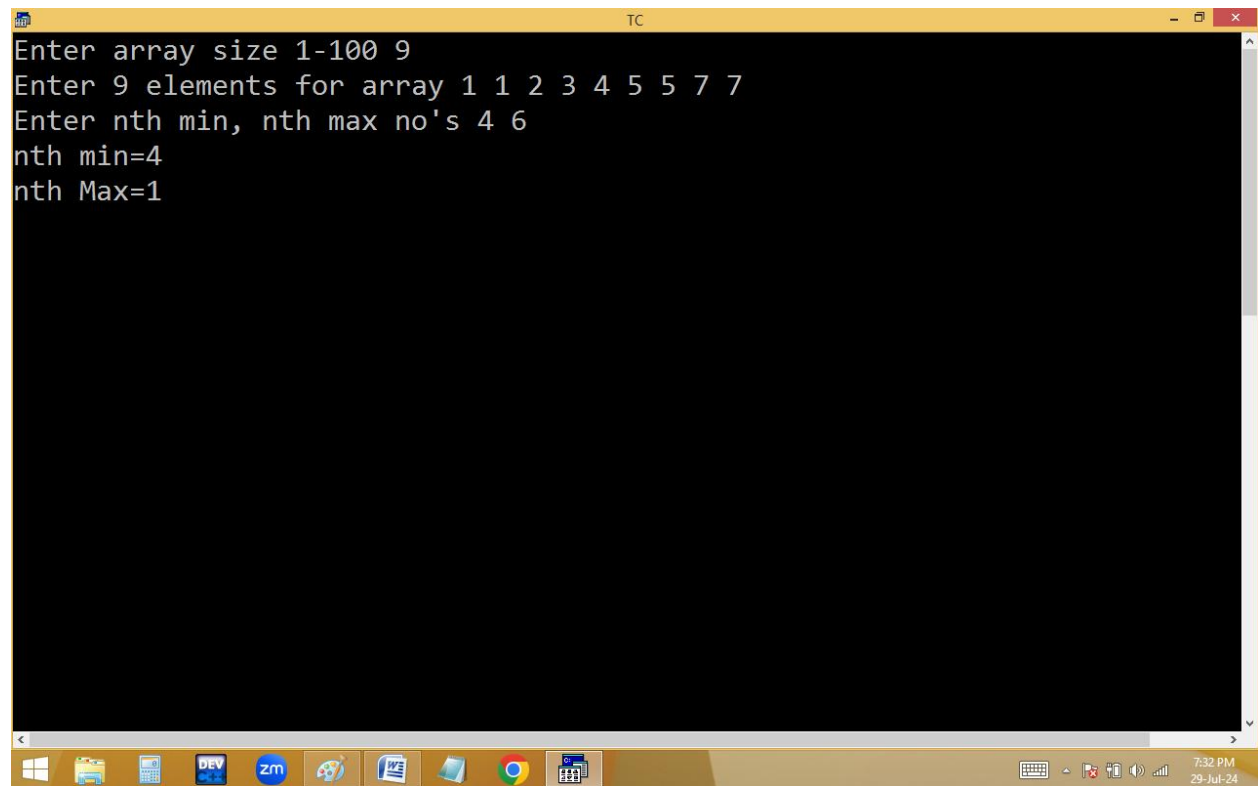
```
for(i=0;i<n;i++)scanf("%d",&a[i]);
```

```
printf("Enter nth min, nth max no's ");scanf("%d%d",&min,&max);
```

```
for(i=0;i<=n-2;i++)
```

```
{  
for(j=i+1;j<=n-1;j++){if(a[i]>a[j]){int t=a[i];a[i]=a[j];a[j]=t;}}  
}  
for(i=1;i<n;i++)  
{  
if(a[i]>a[i-1])  
{min--; if(min==1){printf("nth min=%d\n",a[i]);break;}}  
}  
for(i=n-2;i>=0;i--)  
{  
if(a[i]<a[i+1]){max--; if(max==1){printf("nth Max=%d",a[i]);break;}}  
}  
getch();  
}
```

```
TC
Enter array size 1-100 9
Enter 9 elements for array 1 1 2 3 4 5 5 7 7
Enter nth min, nth max no's 4 6
nth min=4
nth Max=1
```



The image shows a Windows 10 desktop environment. A terminal window titled "TC" is open, displaying the following text: "Enter array size 1-100 9", "Enter 9 elements for array 1 1 2 3 4 5 5 7 7", "Enter nth min, nth max no's 4 6", "nth min=4", and "nth Max=1". The taskbar at the bottom contains icons for Windows, File Explorer, Microsoft Edge, DEV, Zoom, Word, PowerPoint, Google Chrome, and a folder icon. The system tray on the right shows the keyboard icon, network status, volume, and the date/time "7:32 PM 29-Jul-24".