

Read a stu id, name, marks in 6 subjects and find the stu result using array:

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

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

```
void main()
```

```
{
```

```
int id, sub[6],tot=0,p=1,i;
```

```
char name[20];
```

```
float avg;
```

```
clrscr();
```

```
printf("Enter stu id "); scanf("%d",&id);
```

```
flushall();
```

```
printf("Enter stu name "); gets(name);
```

```
printf("Enter 6 sub marks ");
```

```
for(i=0;i<6;i++)
```

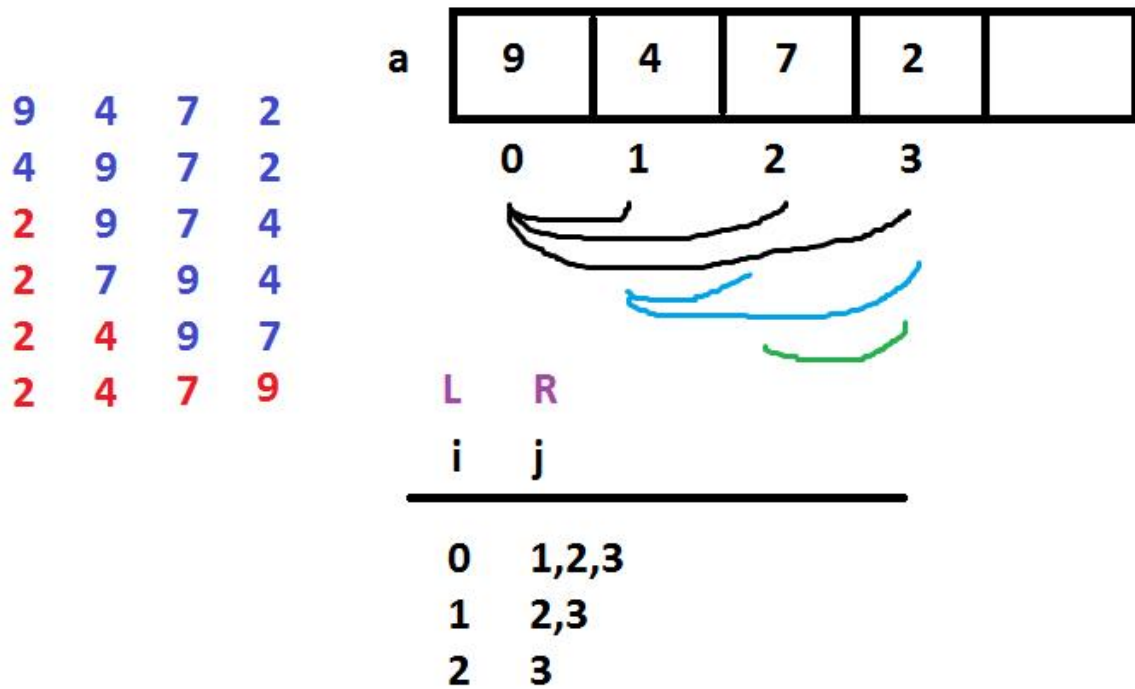
```
{scanf("%d",&sub[i]);tot+=sub[i];if(sub[i]<35)p  
=0;}  
  
avg=tot/6.0;  
  
puts("Id\tName\tTot\tAvg\tGrade");  
  
puts("-----  
-----");  
  
printf("%d\t%s\t%d\t%.2f\t",id,name,tot,avg);  
  
if(p==0)puts("Failed");  
  
else if(avg>=60)puts("1st class");  
  
else if(avg>=50)puts("2nd class");  
  
else puts("3rd Class");  
  
getch();  
  
}
```

```
TC
Enter stu id 1
Enter stu name krish
Enter 6 sub marks 88 99 98 90 88 89
Id      Name    Tot      Avg      Grade
-----
1       krish   552      92.00    1st class
```

```
TC
Enter stu id 2
Enter stu name kumar
Enter 6 sub marks 66 76 45 34 44 45
Id      Name    Tot      Avg      Grade
-----
2       kumar   310      51.67    Failed
-
```

## Sorting – Arranging data in a order.

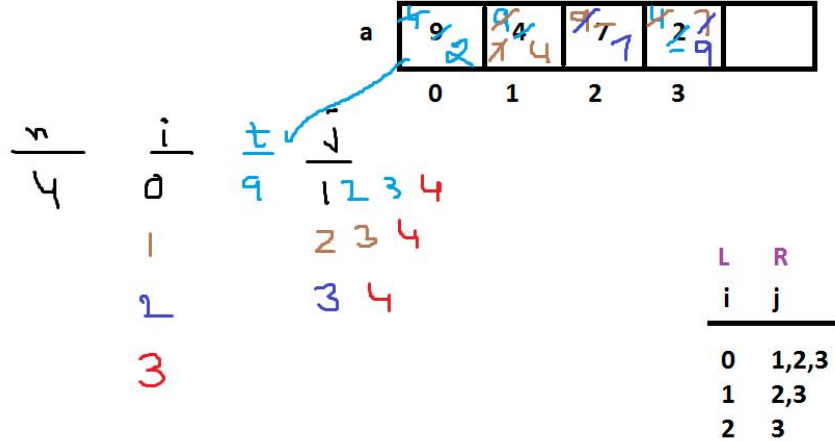
### Selection sort ascending order:



```

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;
}
}
}

```



```

TC
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 61 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100], n, i, 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=i+1;j<=n-1;j++){if(a[i]>a[j]){t=a[i];a[i]=a[j];a[j]=t;}}
}
printf("Sorted elements ");for(i=0;i<n;i++)printf("%4d",a[i]);
getch();
}

```

```
TC
Enter array size 1-100 9
Enter 9 elements 9 6 12 -3 0 9 -4 1 7
Sorted elements -4 -3 0 1 6 7 9 9 12_
```

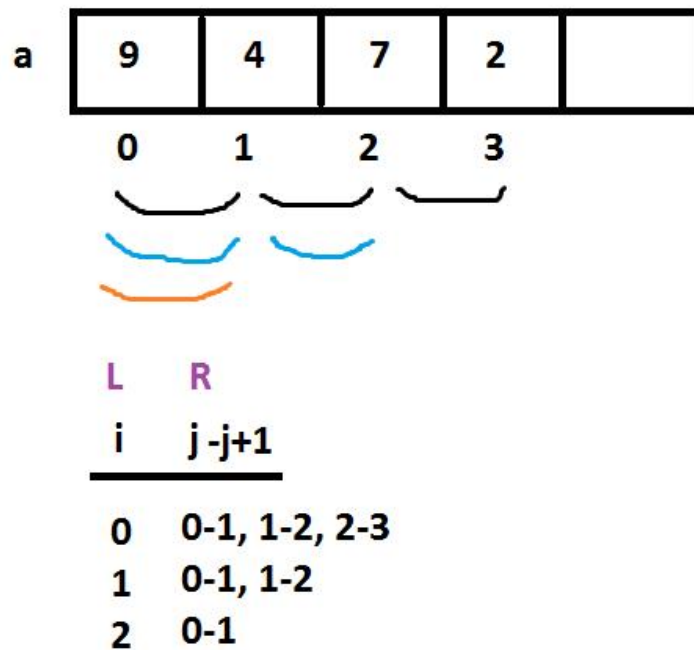
**Descending order:**

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 31 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100], n, i,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=i+1;j<=n-1;j++){if(a[i]<a[j]){t=a[i];a[i]=a[j];a[j]=t;}}
}
printf("Sorted elements ");for(i=0;i<n;i++)printf("%4d",a[i]);
getch();
}

Enter array size 1-100 9
Enter 9 elements 3 0 1 9 -3 7 3 8 2
Sorted elements 9 8 7 3 3 2 1 0 -3_
TC
9:44 AM
16-Aug-24
```

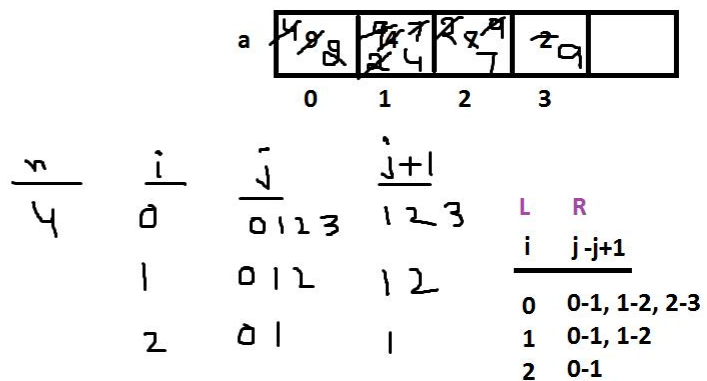
## Bubble sort ascending order:

9 4 7 2  
 4 9 7 2  
 4 7 9 2  
 4 7 2 9  
 4 2 7 9  
 2 4 7 9



```

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;
    }
  }
}
  
```





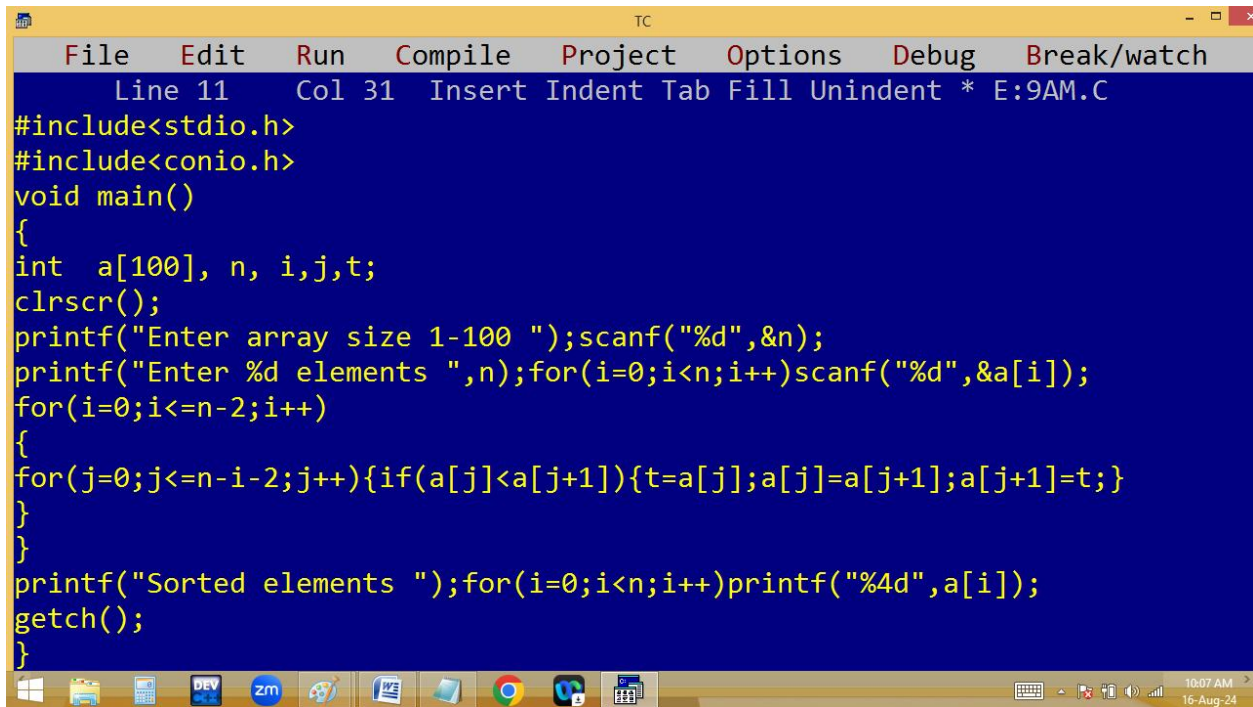
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a program that sorts an array in ascending order using bubble sort. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. It prompts the user to enter the array size (1-100) and the number of elements. It then reads the elements and sorts them using a nested loop. Finally, it prints the sorted elements and waits for a key press.

```
Line 12 Col 63 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int  a[100], n, i,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("Sorted elements ");for(i=0;i<n;i++)printf("%4d",a[i]);
getch();
}
```

The bottom window shows the program's execution. The user entered 7 for the array size and 7 elements. The input elements were 3, 0, 1, 7, -3, 6, 7. The output shows the sorted elements in ascending order: -3, 0, 1, 3, 6, 7, 7.

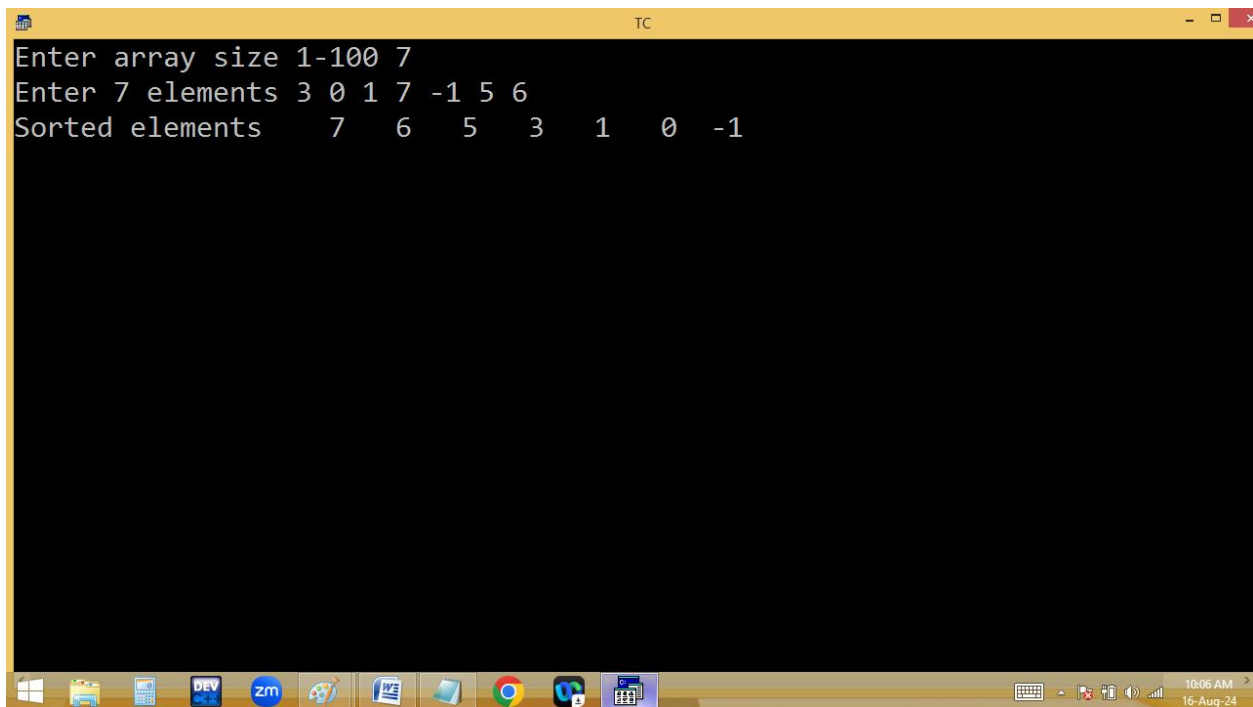
```
Enter array size 1-100 7
Enter 7 elements 3 0 1 7 -3 6 7
Sorted elements  -3  0  1  3  6  7  7_
```

**Descending order:**



The screenshot shows the Turbo C++ (TC) IDE with a menu bar (File, Edit, Run, Compile, Project, Options, Debug, Break/watch) and a status bar (Line 11, Col 31, Insert, Indent, Tab, Fill, Unindent, \* E:9AM.C). The code is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int  a[100], n, i,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("Sorted elements ");for(i=0;i<n;i++)printf("%4d",a[i]);
getch();
}
```



The screenshot shows the Turbo C++ (TC) IDE with the same menu bar and status bar (Line 11, Col 31, Insert, Indent, Tab, Fill, Unindent, \* E:9AM.C). The output of the program is displayed on the screen:

```
Enter array size 1-100 7
Enter 7 elements 3 0 1 7 -1 5 6
Sorted elements      7  6  5  3  1  0 -1
```

arrange even elements in ascending and odd  
in descending order:

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

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

```
void main()
```

```
{
```

```
int a[10], i,j, temp, n;
```

```
clrscr();
```

```
printf("Enter array size 1 - 10
```

```
");scanf("%d",&n);
```

```
printf("Enter %d integers",n);
```

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

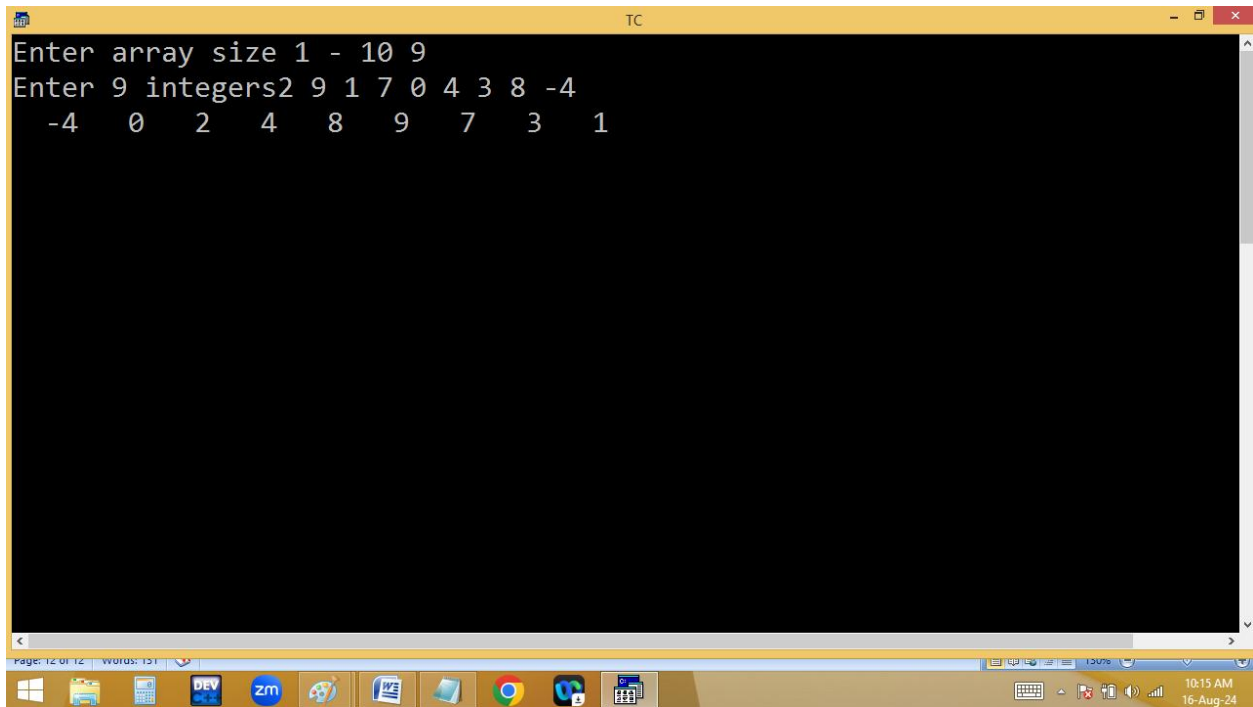
```
for(i=0;i<=n-2;i++)
```

```
{
```

```
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;
}
}
}
for(i=0;i<n;i++)if(a[i]%2==0)printf("%4d",a[i]);
for(n--;n>=0;n--
)if(a[n]%2!=0)printf("%4d",a[n]);
getch();
}
```



```
TC
Enter array size 1 - 10 9
Enter 9 integers2 9 1 7 0 4 3 8 -4
-4 0 2 4 8 9 7 3 1
```

Half elements in ascending and remaining in descending order:

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

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

```
void main()
```

```
{
```

```
int a[10], i,j, temp, n;
```

```
clrscr();
```

```
printf("Enter array size 1 - 10\n");scanf("%d",&n);

printf("Enter %d integers",n);

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

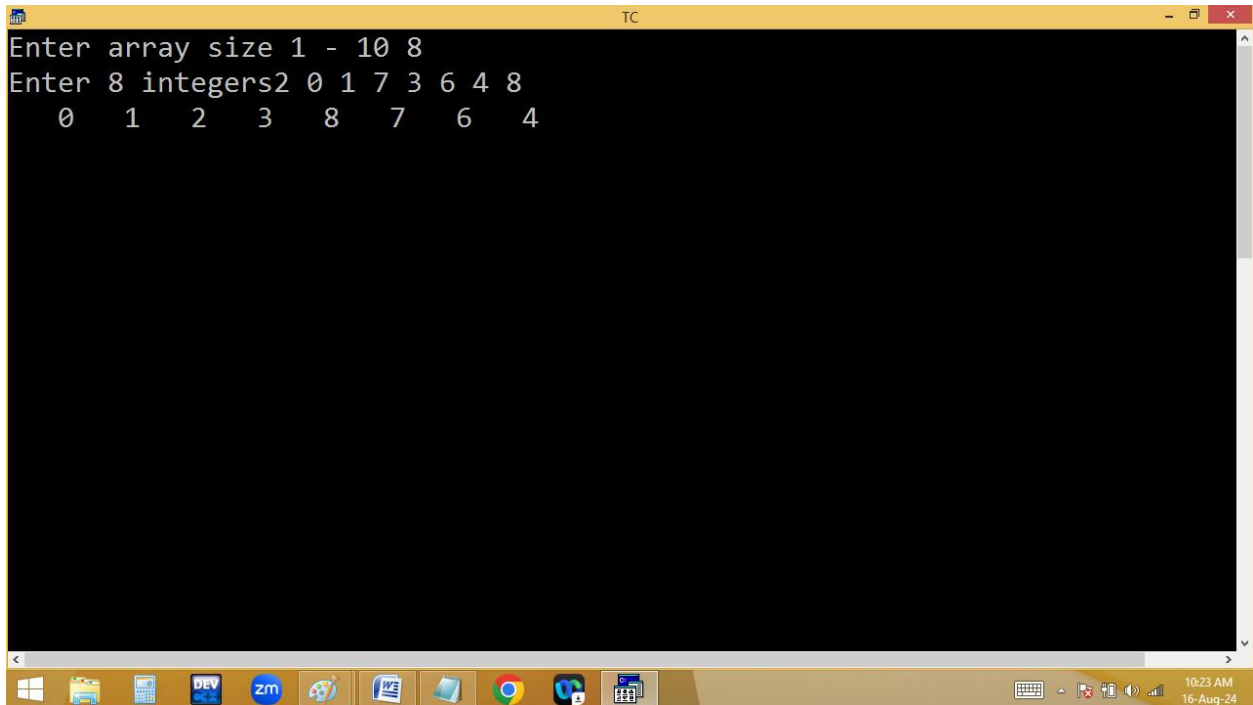
for(i=0;i<=n-2;i++)
{
for(j=0;j<=n-i-2;j++)
{
if(a[j]>a[j+1]){temp=a[j];
a[j]=a[j+1];a[j+1]=temp;
}
}
}

for(i=0;i<n/2;i++)printf("%4d",a[i]);

for(i=n-1;i>=n/2;i--)printf("%4d",a[i]);
```

**getch();**

**}**



```
Enter array size 1 - 10 8
Enter 8 integers2 0 1 7 3 6 4 8
0 1 2 3 8 7 6 4
```

**Finding 2<sup>nd</sup> max, 2<sup>nd</sup> min elements of sorted array:**

**#include<stdio.h>**

**#include<conio.h>**

**void main()**

**{**

**int a[10], i,j, temp, n;**

```
clrscr();

printf("Enter array size 1 - 10
");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;
}
}
}

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

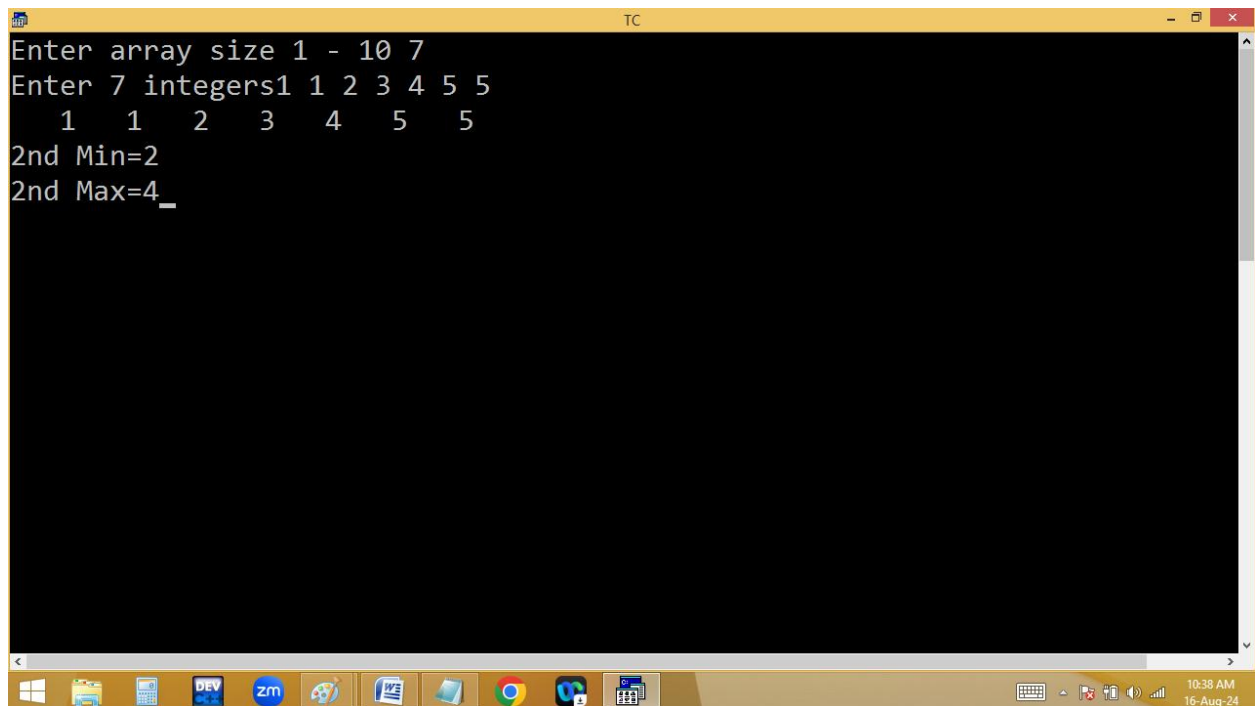


```
for(i=1;i<n;i++){if(a[i]>a[0]){printf("\n2nd  
Min=%d\n", a[i]);break;}}
```

```
for(i=n-2;i>=0;i--){if(a[i]<a[n-1]){printf("2nd  
Max=%d",a[i]);break;}}
```

```
getch();
```

```
}
```



```
TC
Enter array size 1 - 10 7
Enter 7 integers1 1 2 3 4 5 5
    1    1    2    3    4    5    5
2nd Min=2
2nd Max=4_
```

Finding nth

**Finding Nth max, Nth min from array:**