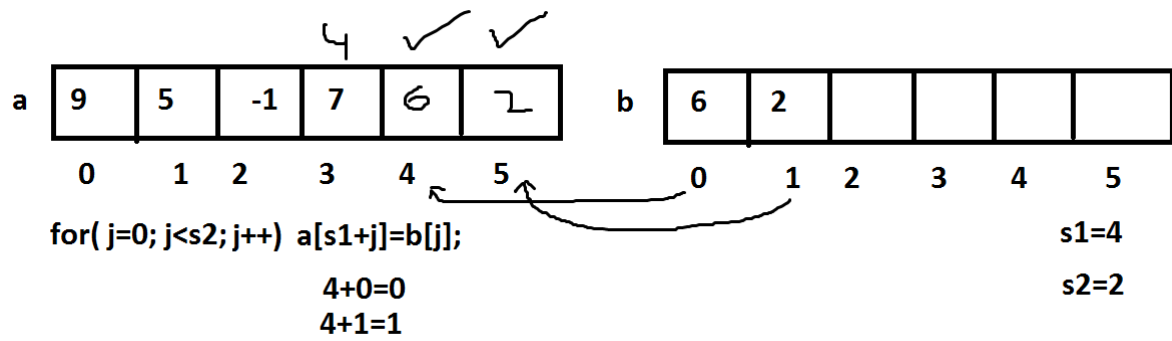**Merging of array elements**:

```c
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],b[100],s1,s2,i,j;  clrscr();
printf("Enter 1st ,2nd array sizes 1-100 ");scanf("%d %d",&s1,&s2);
printf("Enter %d elements for 1st array ", s1);
for(i=0;i<s1;i++)scanf("%d",&a[i]);
printf("Enter %d elements for 2nd array ", s2);
for(i=0;i<s2;i++)scanf("%d",&b[i]);
for(i=0;i<s2;i++)a[s1+i]=b[i];
for(i=0;i<=s1+s2-2;i++)
{
for(j=i+1;j<=s1+s2-1;j++)
{ if(a[i]>a[j]){int t=a[i]; a[i]=a[j]; a[j]=t;} } }
puts("Elements ");for(i=0;i<s1+s2;i++)printf("%4d",a[i]);
getch();
}
```

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Enter 1st ,2nd array sizes 1-100 4 2
Enter 4 elements for 1st array 4 0 -2 6
Enter 2 elements for 2nd array 1 7
Elements
  -2   0   1   4   6   7_

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4 ✓ ✓

a | 9 | 5 | -1 | 7 | 6 | 2 | b | 6 | 2 | | | | |

  0   1   2   3   4   5   0   1   2   3   4   5

for(j=0; j<s2; j++) a[s1+j]=b[j];   s1=4

              4+0=0   s2=2
              4+1=1

Eg. arrange the array even elements in ascending order and odd elements in descending order.

```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]){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();
}
```

Activate Windows
Go to PC settings to activate Windows.

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TC

```
Enter  array size 1-100 9
Enter 9 elements  4 0 1 -5 4 8 7 3 6
    0    4    4    6    8    7    3    1   -5
```

Activate Windows
Go to PC settings to activate Windows.

Show hidden icons

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Finding 2nd max, 2nd min array elements:

```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]){int t=a[i]; a[i]=a[j]; a[j]=t;} } }
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();
}
```

```
Enter  array size 1-100 9
Enter 9 elements  2 0 1 0 2 7 6 5 7
   0   0   1   2   2   5   6   7   7
2nd min=1
2nd max=6
```

Find the nth max, nth min elements:

#include<stdio.h>

#include<conio.h>

```c
void main()
{
int a[100],n,i,j,t,min, max;  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]){int t=a[i]; a[i]=a[j]; a[j]=t;} } }
for(i=0;i<n;i++)printf("%4d",a[i]);
printf("\nEnter nth min, nth max values ");scanf("%d%d",&min,&max);


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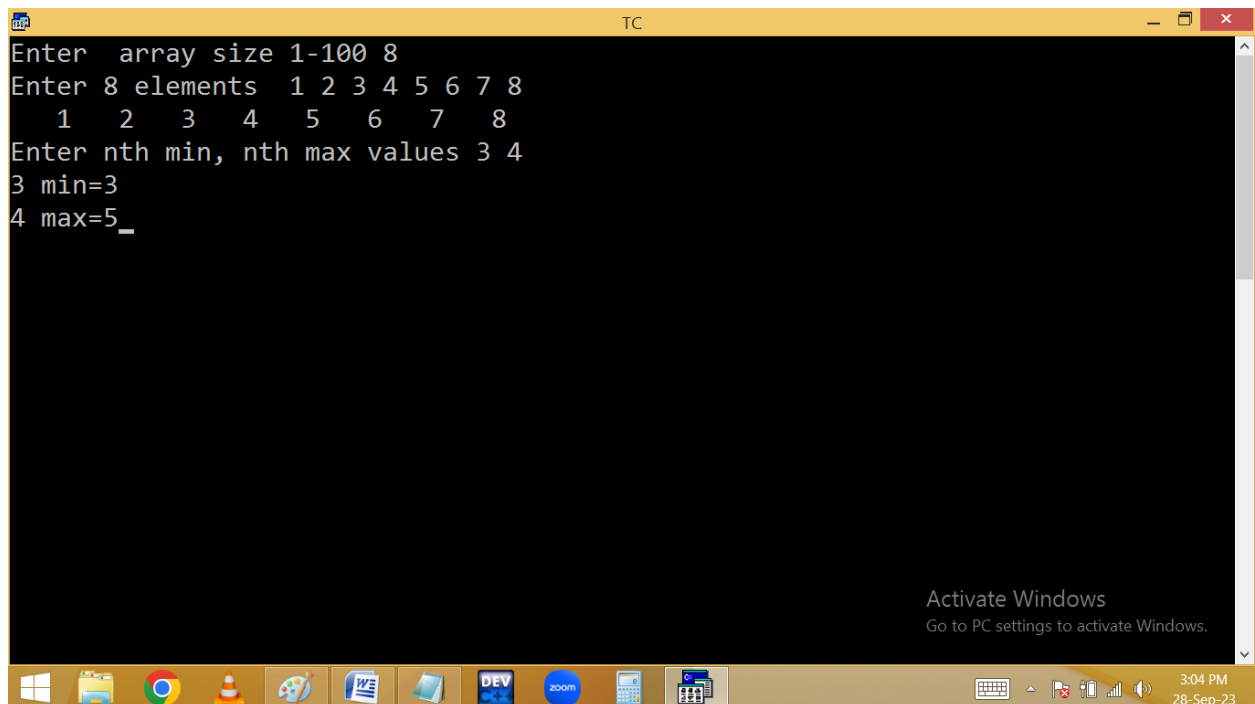
```c
}

printf("%d max=",max);

for(i=n-2;i>=0;i--)

{

if(a[i]<a[i+1])max--;if(max==1){printf("%d",a[i]);break;}

}

getch();

}
```

```
                              TC                              _  □  ×
Enter  array size 1-100 8
Enter 8 elements  1 2 3 4 5 6 7 8
   1   2   3   4   5   6   7   8
Enter nth min, nth max values 3 4
3 min=3
4 max=5_




                                        Activate Windows
                                        Go to PC settings to activate Windows.
```

Decimal to binary conversion:

```
File    Edit    Run    Compile    Project    Options    Debug    Break/watch
        Line 11      Col 2      Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[16]={0},n,i;  clrscr();
printf("Enter a no "); scanf("%d",&n);
printf("%d binary code ",n);
for(i=0;n!=0;i++,n/=2)a[i]=n%2; /* dec to bin */
for(i=15;i>=0;i--)printf("%2d",a[i]); /* rev */
getch();
}
```

```
Enter a no 20
20 binary code  0 0 0 0 0 0 0 0 0 0 0 1 0 1 0 0_
```

0	0	01	0	01	0	0	0	0	0	0	0	0	0	0
0	1	2	3	4	5 15									

for(i=0; n!=0; n/=2,i++) a[i]=n%2;

2|20
|10-0
2|5-0
2|2-1
|1-0

20
10
5
2
1
0

0 = 20%2 = 0
1 = 10%2 = 0
2 = 5%2 = 1
3 = 2%2 = 0
4 = 1%2 = 1

for(i=15;i>=0;i--)p(a[i]);
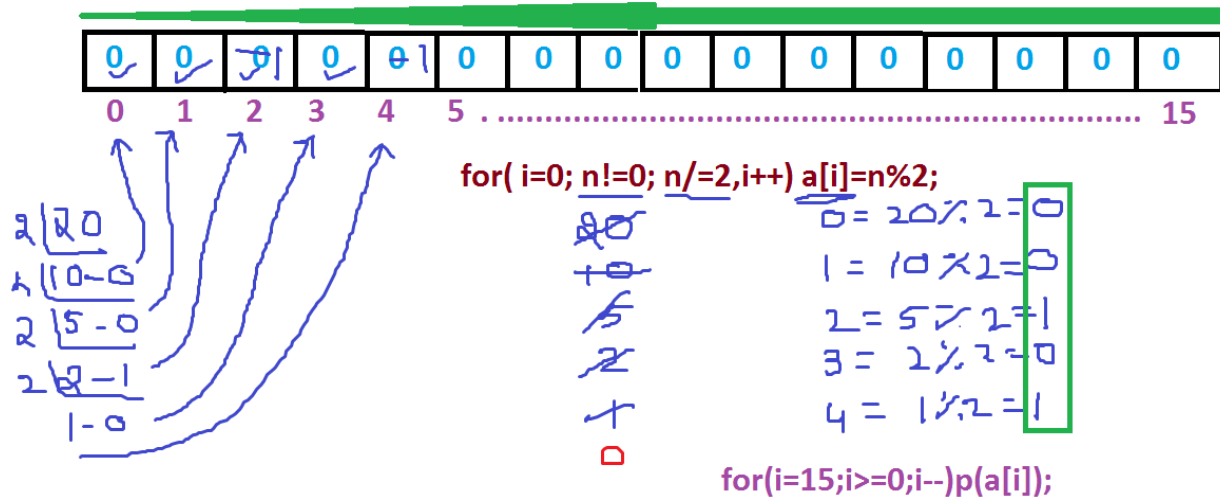
Decimal to Octal conversion:

8 |20
2 - 4

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[16]={0},n,i;  clrscr();
printf("Enter a no "); scanf("%d",&n);
printf("%d octal code ",n);
for(i=0;n!=0;i++,n/=8)a[i]=n%8; /* dec to oct_*/
for(i=15;i>=0;i--)printf("%2d",a[i]); /* rev */
getch();
}
```

```
Enter a no 20
20 octal code  0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 4
```

Decimal to hexadecimal:

$$16 \overline{)20}$$

1 - 4 ✓


```
Enter a no 20
20 hexadecimal code  0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 4
```

$$16 \overline{)45}$$

$$2 - \frac{13}{d}$$

$$16 \overline{)95}$$

$$5 - \frac{15}{f}$$

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[16]={0},n,i;  clrscr();
printf("Enter a no "); scanf("%d",&n);
printf("%d hexadecimal code ",n);
for(i=0;n!=0;i++,n/=16)a[i]=n%16; /* dec to hex */
for(i=15;i>=0;i--)if(a[i]<10)printf("%2d",a[i]);else printf("%2c",87+a[i]);_
getch();
}
```

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```
Enter a no 45
45 hexadecimal code  0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 d_
```

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```
Enter a no 95
95 hexadecimal code   0 0 0 0 0 0 0 0 0 0 0 0 0 0 5 f
```

```
Enter a no 35
35 hexadecimal code   0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 3
```
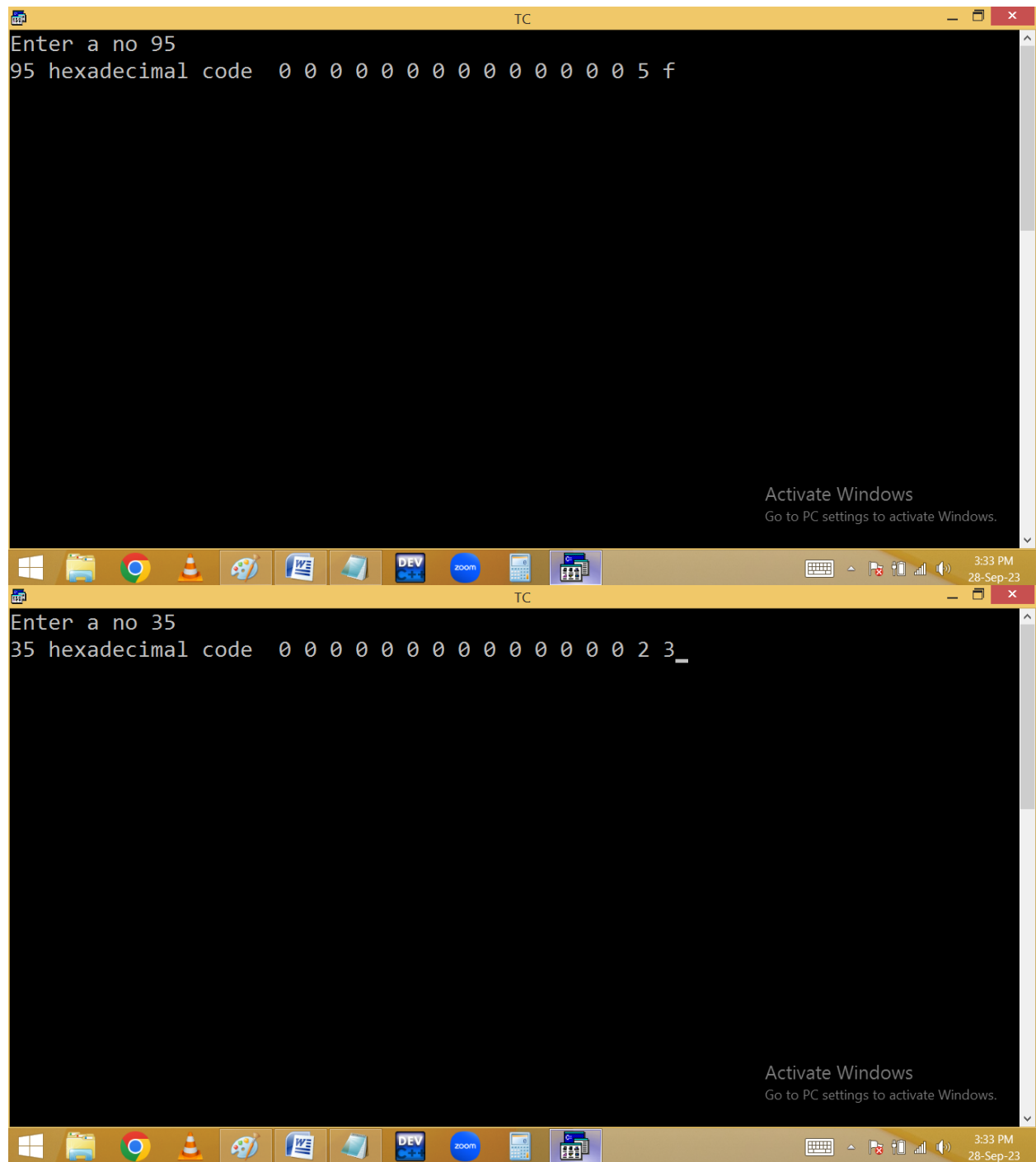
Flip / twisting of array elements:

File   Edit   Run   Compile   Project   Options   Debug   Break/watch

Line 8   Col 14   Insert Indent Tab Fill Unindent * E:2PM.C

```c
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,i,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-1;i+=2){t=a[i];a[i]=a[i+1];a[i+1]=t;}
printf("Flipped elements");
for(i=0;i<n;i++)printf("%4d",a[i]);
getch();
}
```

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```
Enter array size 1-100 5
Enter 5 elements 1 2 3 4 5
Flipped elements   2   1   4   3   5
```

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```
Enter array size 1-100 4
Enter 4 elements 1 0 2 8
Flipped elements   0   1   8   2
```