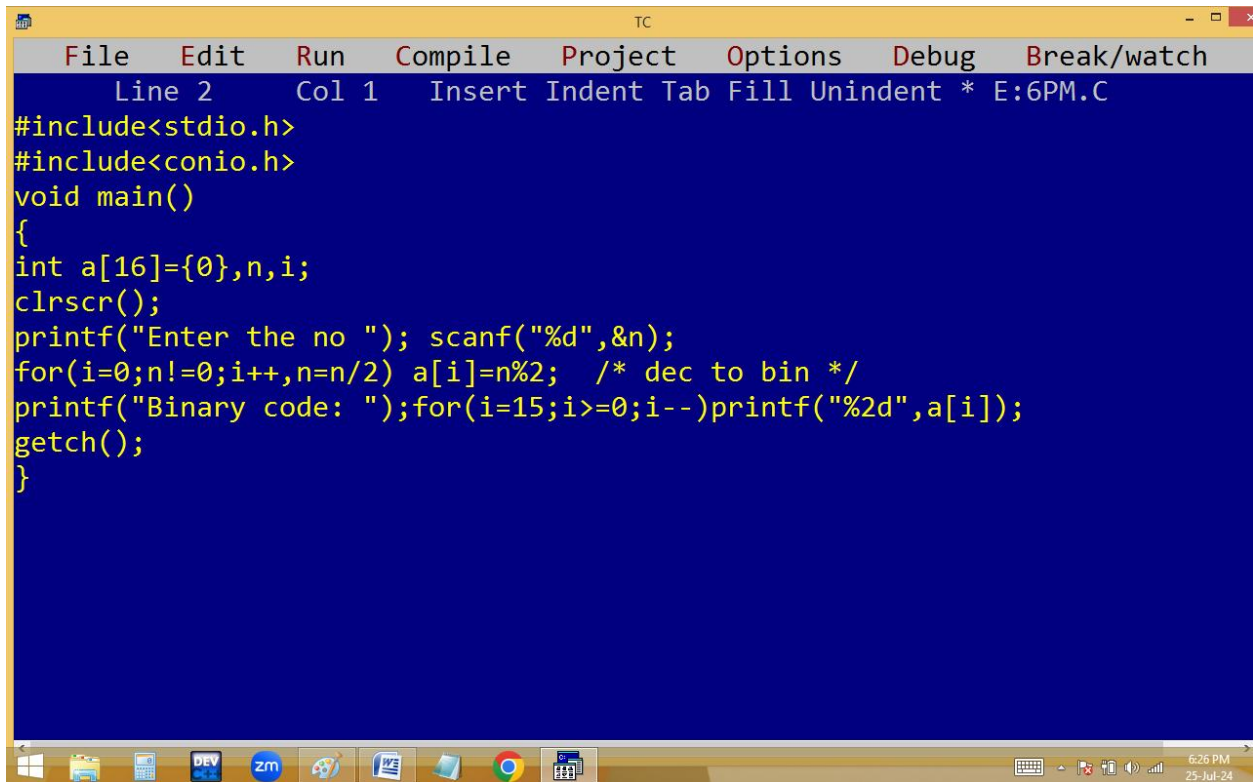


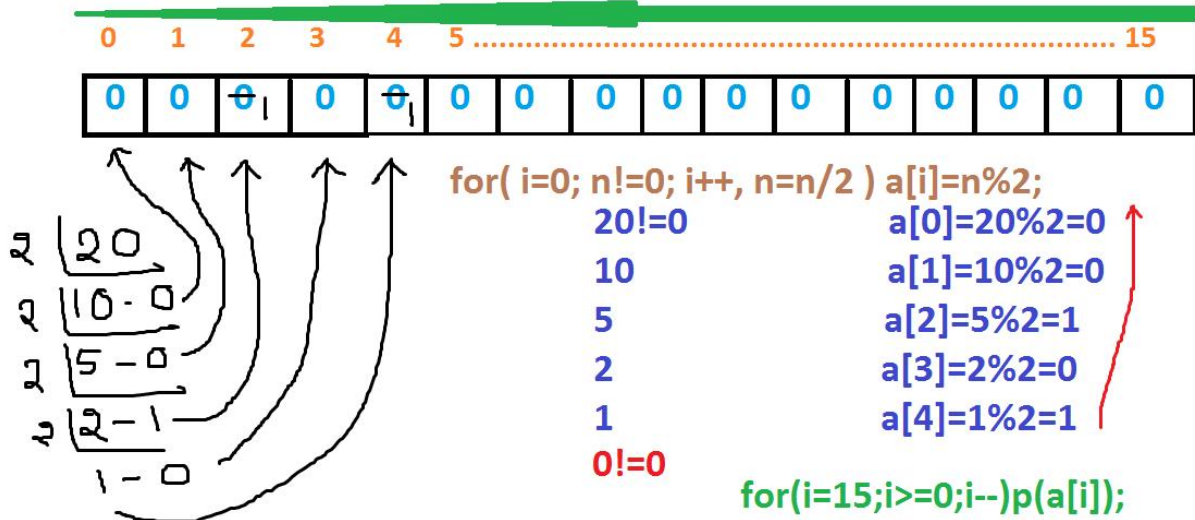
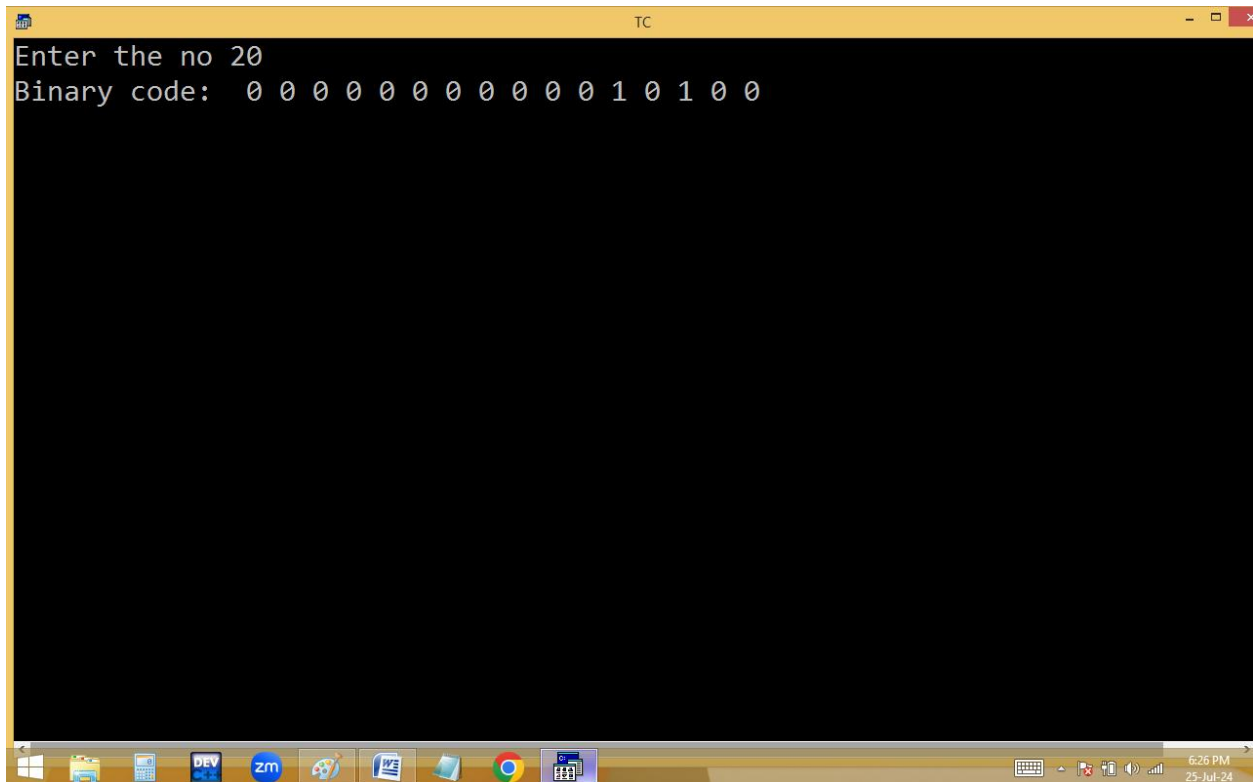
## Decimal to binary conversion:



The image shows a screenshot of a Turbo C++ (TC) IDE window. The title bar reads "TC". The menu bar includes "File", "Edit", "Run", "Compile", "Project", "Options", "Debug", and "Break/watch". The status bar at the top indicates "Line 2", "Col 1", and "E:6PM.C". The main editing area has a dark blue background with yellow text. The code is as follows:

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

The Windows taskbar is visible at the bottom, showing icons for File Explorer, DEV, zm, and other applications. The system clock in the bottom right corner shows "6:26 PM" and "25-Jul-24".



Decimal to Octal:

$$8 \overline{) 20} \\ 2 - 4 \checkmark$$

---

TC

File Edit Run Compile Project Options Debug Break/watch

Line 9 Col 14 Insert Indent Tab Fill Unindent \* E:6PM.C

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

6:28 PM 25-Jul-24

TC

```
Enter the no 20
Octal code:  0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 4_
```

6:28 PM 25-Jul-24

Decimal to hexadecimal:

$$\begin{array}{r} 16 \overline{) 20} \\ \underline{16} \phantom{0} \\ 4 \end{array}$$

---

---

TC

File Edit Run Compile Project Options Debug Break/watch

Line 11 Col 27 Insert Indent Tab Fill Unindent \* E:6PM.C

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

6:37 PM 25-Jul-24

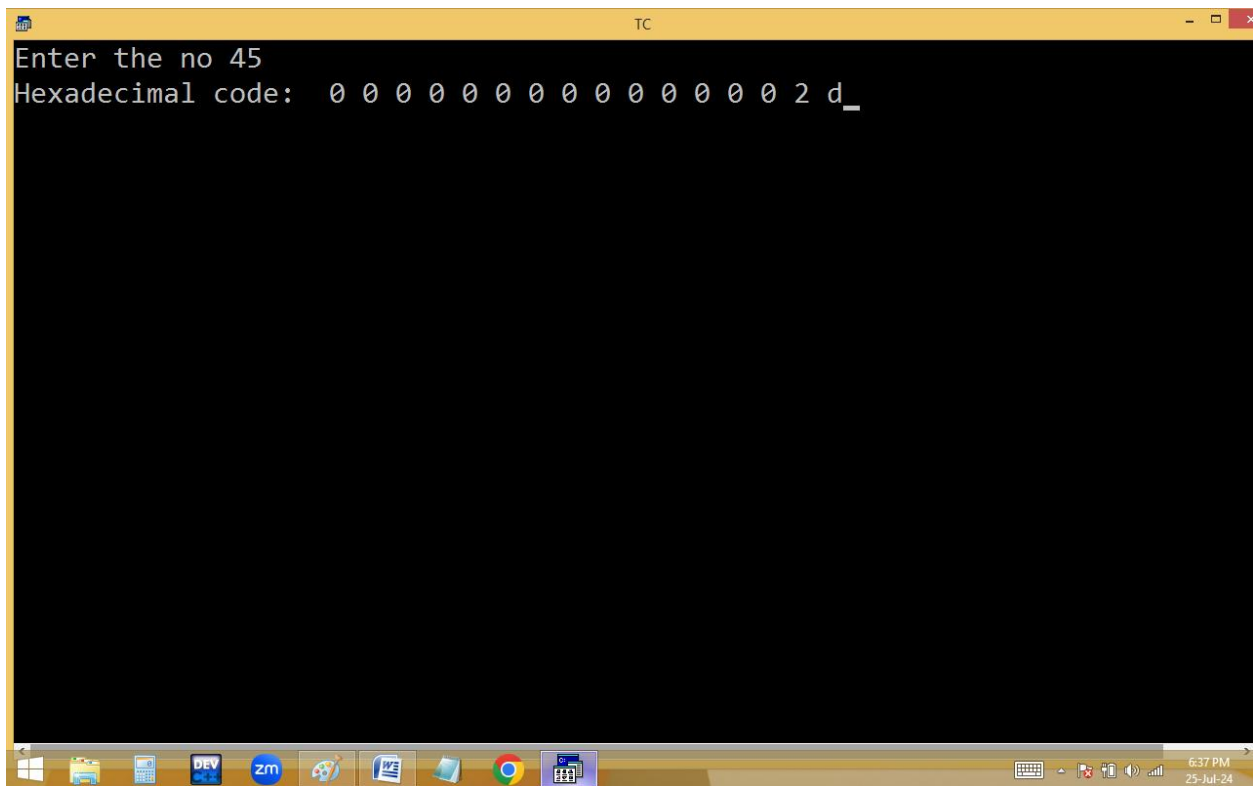
TC

Enter the no 95

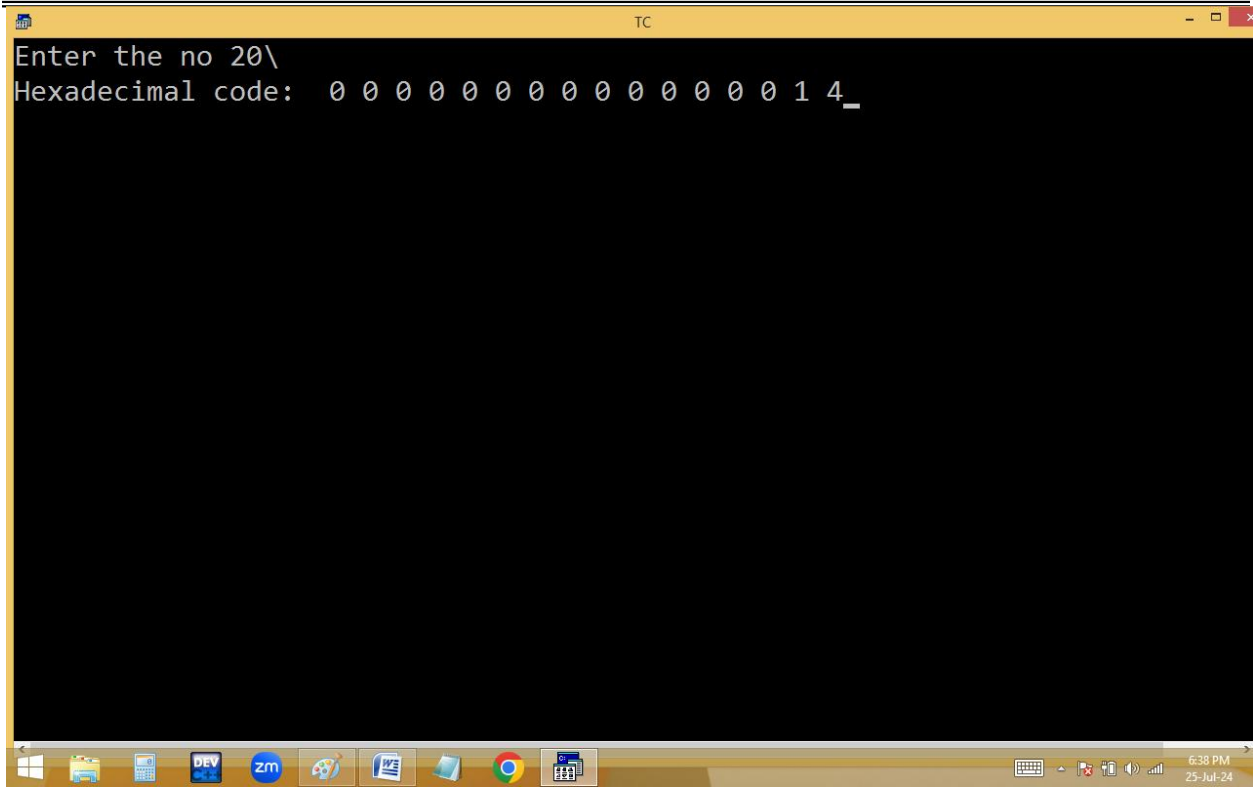
Hexadecimal code: 0 0 0 0 0 0 0 0 0 0 0 0 0 5 f \_

6:37 PM 25-Jul-24

```
TC
Enter the no 45
Hexadecimal code: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 d_
```



```
TC
Enter the no 20\
Hexadecimal code: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 4_
```



Arranging array elements in reverse order:

Temporary printing:



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 9 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,i;
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("Elements in reverse order ");
for(; n>0; ) printf("%3d",a[--n]);
getch();
}
```

```
TC
Enter array size 1-100 5
Enter 5 elements 9 3 1 7 5
Elements in reverse order  5  7  1  3  9_
```

for( ; n > 0 ; ) p(a[--n]);

a	9	5	1	0	7
	0	1	2	3	4

n  
5  
4 - 7 ✓  
3 - 0 ✓  
2 - 1 ✓  
1 - 5 ✓  
0 - 9 ✓

---

---

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a C program that reverses an array. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. It prompts the user to enter an array size (1-100) and then 5 elements (1, 0, 2, 7, 4). It then prints the elements in reverse order (4, 7, 2, 0, 1).

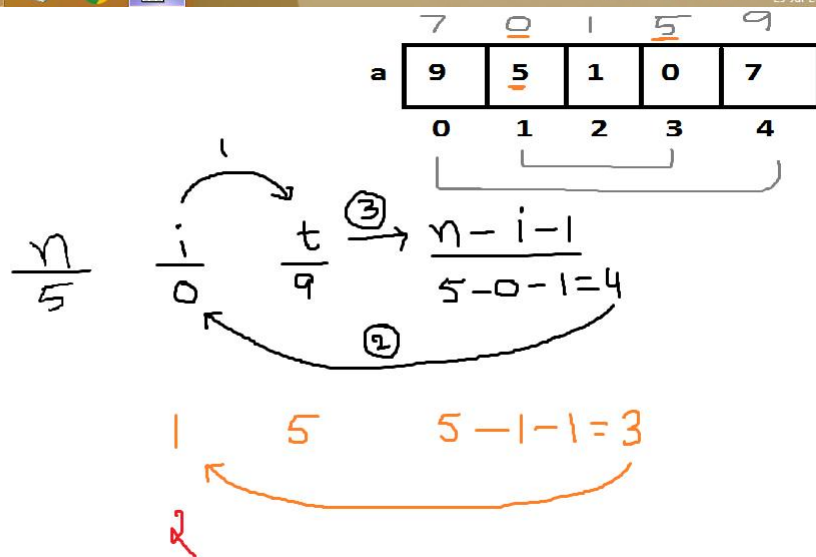
```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 34 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,i,t;
clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);for(i=0;i<n;i++)scanf("%d",&a[i]);
printf("Elements in reverse order ");
for(i=0; i<n/2;i++ ){t=a[i];a[i]=a[n-i-1];a[n-i-1]=t;}
for(i=0;i<n;i++) printf("%3d",a[i]);
getch();
}
```

The bottom window shows the execution output of the program:

```
Enter array size 1-100 5
Enter 5 elements 1 0 2 7 4
Elements in reverse order  4  7  2  0  1
```

```
TC
Enter array size 1-100 6
Enter 6 elements 1 2 3 4 5 6
Elements in reverse order 6 5 4 3 2 1_
```

```
for(i=0; i<n/2; i++)
{
    int t=a[i];
    a[i]=a[n-i-1];
    a[n-i-1]=t;
}
```



Without using 3<sup>rd</sup> variable:

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a C program that reverses an array. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. It prompts the user to enter an array size (1-100) and then the elements. The program then prints the elements in reverse order. The bottom window shows the execution output, where the user has entered 5 as the array size and 1 2 3 4 5 as the elements. The output shows the elements in reverse order: 5 4 3 2 1.

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 62 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,i;
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("Elements in reverse order ");
for(i=0; i<n/2;i++ )
{a[i]=a[i]+a[n-i-1];a[n-i-1]=a[i]-a[n-i-1];a[i]=a[i]-a[n-i-1];}
for(i=0;i<n;i++) printf("%3d",a[i]);
getch();
}
```

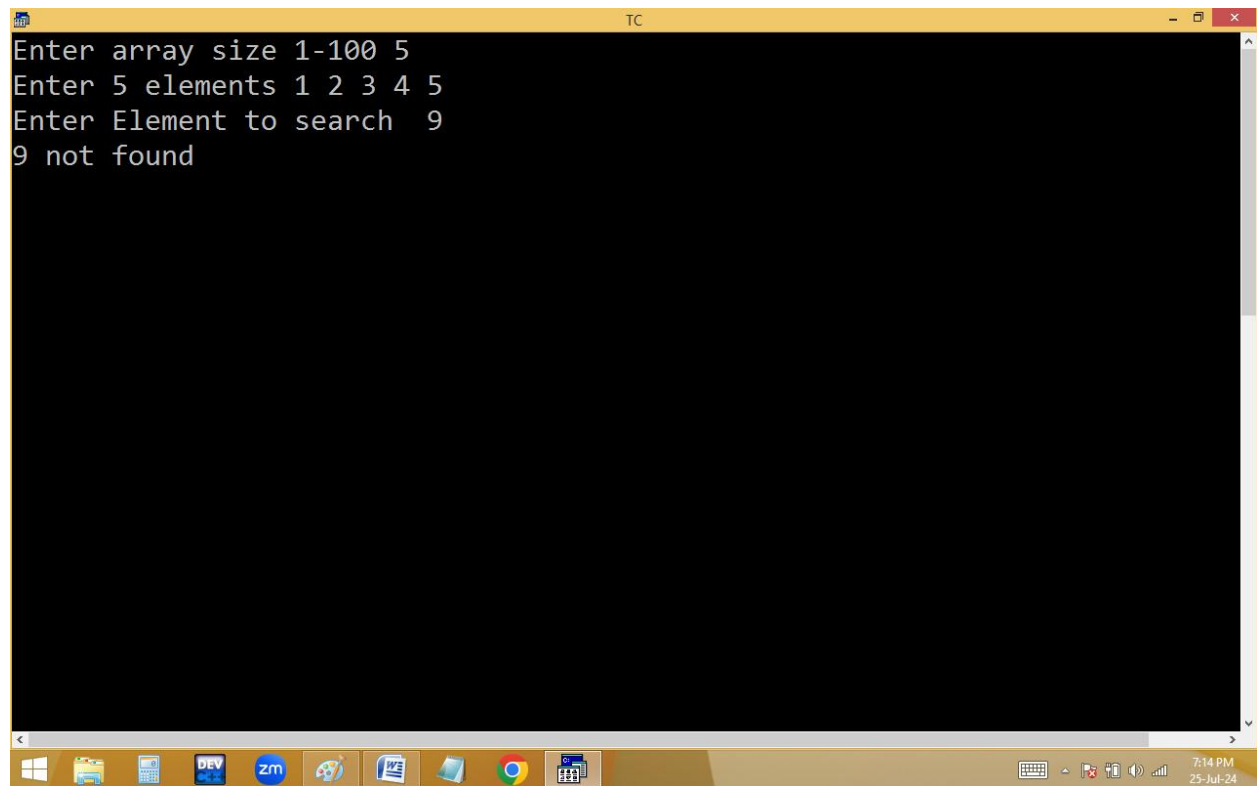
Enter array size 1-100 5  
Enter 5 elements 1 2 3 4 5  
Elements in reverse order 5 4 3 2 1\_

	167	50		5	9
a	<del>9</del>	5	1	0	7
	0	1	2	3	4

Linear search:

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 36 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,i,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 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();
}

TC
Enter array size 1-100 9
Enter 9 elements 7 1 0 7 3 6 1 7 4
Enter Element to search 7
7 in 1 cell
7 in 4 cell
7 in 8 cell
_
```



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

The screenshot shows a Turbo C++ (TC) window with a black background and white text. The window title bar is yellow and contains the text 'TC'. The program prompts the user for an array size (1-100), the number of elements (5), and the element to search (9). The output is '9 not found'. The Windows taskbar is visible at the bottom, showing various application icons and the system clock (7:14 PM, 25-Jul-24).

**Finding index:**



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 `<stdio.h>` and `<conio.h>`, and defines a `main` function. Inside `main`, an integer array `a` of size 100 is declared, along with variables `n`, `i`, `ele`, and `f`. The program prompts the user to enter the array size (1-100), the number of elements, and the element to search. It then iterates through the array to find the element. If found, it prints the element's value and its index; otherwise, it prints a 'not found' message. The bottom window shows the program's execution output, where the user has entered 7 elements (1 2 3 4 1 5 6) and searched for the value 1. The output shows that the value 1 is found at indices 0 and 4.

```
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 65 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,i,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 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();
}
```

Enter array size 1-100 7  
Enter 7 elements 1 2 3 4 1 5 6  
Enter Element to search 1  
1 in a[0] cell  
1 in a[4] cell

```
for(i=0;i<5;i++)
if(a[i]==e) p("%d in %d cell\n",e, i+1,f=1);
```

0 4

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

a

9	5	1	0	7
0	1	2	3	4

$\frac{n}{5}$	$\frac{i}{0}$	$\frac{e}{0}$	$\frac{f}{0}$
	1		1
	2		
	3		

✓

### Finding nth occurrence of given array element:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],n,i,ele,f=0,occ;
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 Element to search and occrence ");scanf("%d",&ele,&occ);
for(i=0; i<n;i++ )
{
if(a[i]==ele)
{
f++;if(f==occ){printf("%d in %d cell %d time\n",ele,i+1,occ);break;}
}
}
if(f==0)printf("%d not found",ele);
else if(f!=occ)printf("%d not found %d time",ele,occ);
getch();
}
```

```
TC
Enter array size 1-100 5
Enter 5 elements 1 2 3 4 2
Enter Element to search and occurrence 2 2
2 in 5 cell 2 time

TC
Enter array size 1-100 3
Enter 3 elements 1 2 3
Enter Element to search and occurrence 4 1
4 not found_
```

```
TC
Enter array size 1-100 7
Enter 7 elements 2 0 1 6 2 5 8
Enter Element to search and occurrence 2 3
2 not found 3 time_
```

