

## Deleting duplicate elements from array:

```
TC
Line 17 Col 19 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h> #include<conio.h>
void main()
{
int  a[100], i,n,k,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]);
for(i=0; i<n;i++)
{
for(j=i+1;j<n;j++)
{
if(a[i]==a[j]){for( n--,k=j;k<n;k++) a[k]=a[k+1];j--;}
}
}
printf("Elements are ");for(i=0;i<n;i++)printf("%4d",a[i]);
getch();
}
```

Enter array size 1 - 100 9  
Enter 9 integers1 2 3 1 2 3 1 2 3  
Elements are 1 2 3

```

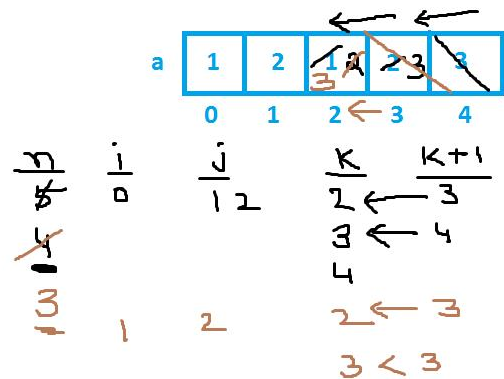
Enter array size 1 - 100 5
Enter 5 integers 1 1 1 1 1
Elements are 1_

```

```

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

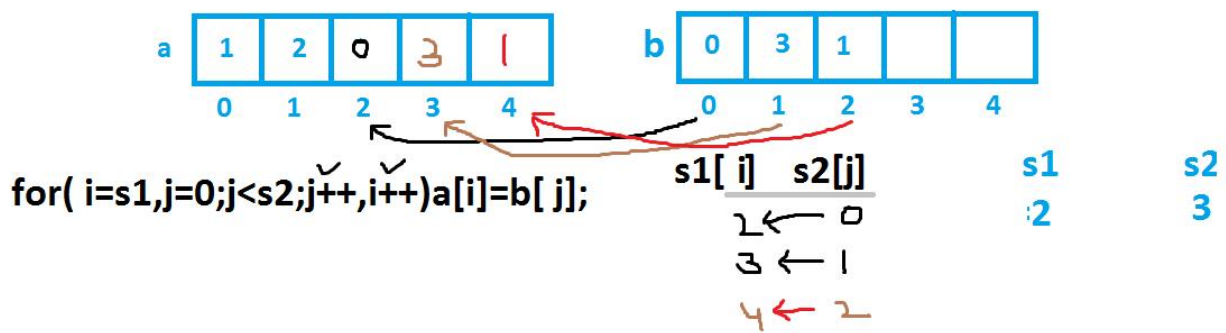
```



Merging or arrays:

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 2 Col 1 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],b[100], i,s1,s2,j; clrscr();
printf("Enter 1st, 2nd array sizes 1 - 100 ");scanf("%d%d",&s1,&s2);
printf("Enter %d integers for a array ",s1);
for(i=0;i<s1;i++)scanf("%d",&a[i]);
printf("Enter %d integers for b array ",s2);
for(i=0;i<s2;i++)scanf("%d",&b[i]);
for(i=s1,j=0; j<s2;i++,j++) a[i]=b[j];
for(i=0;i<s1+s2;i++)
{for(j=i+1;j<s1+s2;j++){if(a[i]>a[j]){int t=a[i];a[i]=a[j];a[j]=t;}}}
printf("Elements are ");for(i=0;i<s1+s2;i++)printf("%4d",a[i]);
getch();
}
```

Enter 1st, 2nd array sizes 1 - 100 4  
5  
Enter 4 integers for a array 7 1 -4 7  
Enter 5 integers for b array 3 0 1 5 2  
Elements are -4 0 1 1 2 3 5 7 7



Frequency of array elements:

```
TC
#include<stdio.h>
#include<conio.h>
void main()
{
int  a[100],b[100]={0}, i,j,c,n; clrscr();
printf("Enter array sizes 1 - 100 ");scanf("%d",&n);
printf("Enter %d integers for a array ",n);
for(i=0;i<n;i++)scanf("%d",&a[i]);
for(i=0; i<n;i++)
{
if(b[i]!=-1)
{
for(c=1,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 sizes 1 - 100 9
Enter 9 integers for a array 1 2 3 1 2 3 4 1 2
1 found 3 times
2 found 3 times
3 found 2 times
4 found 1 times
```

```

for(i=0; i<n; i++) ✓
{
  if(b[i] != -1)
  {
    for(j=i+1, c=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) p(a[i] found b[i] times);

```

1
2

a	<u>1</u>	<u>2</u>	<u>2</u>	<u>3</u>	1
	0	1	2	3	4

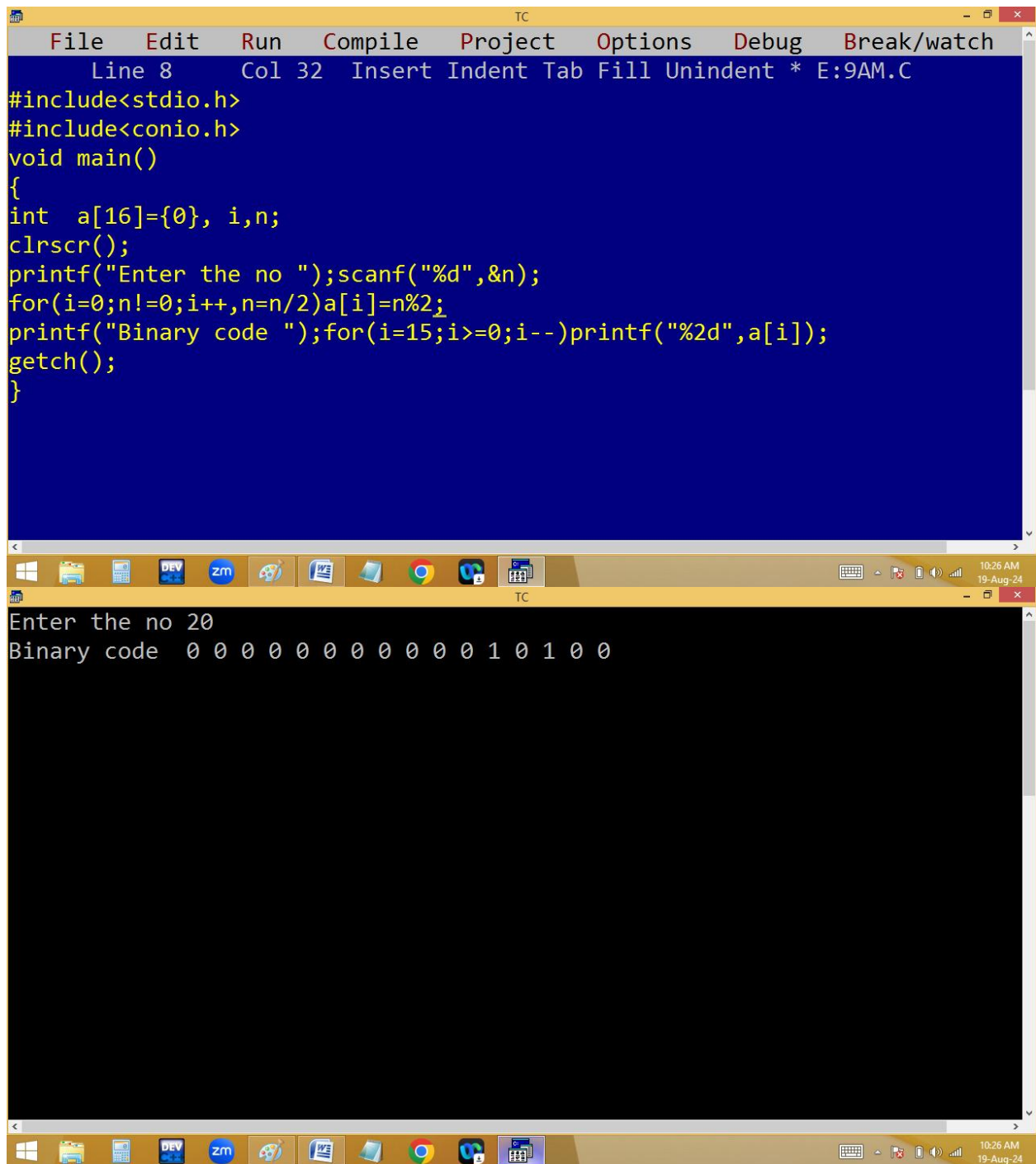
b	<del>0</del>	<del>0</del>	<u>0</u>	<del>0</del>	<del>0</del>
	0	1	2	3	4

i
j
c

0	1	2	3	4	5	6	7
1	2	3	4	5	6	7	8
2							
3							
4							

## Decimal to binary conversion:

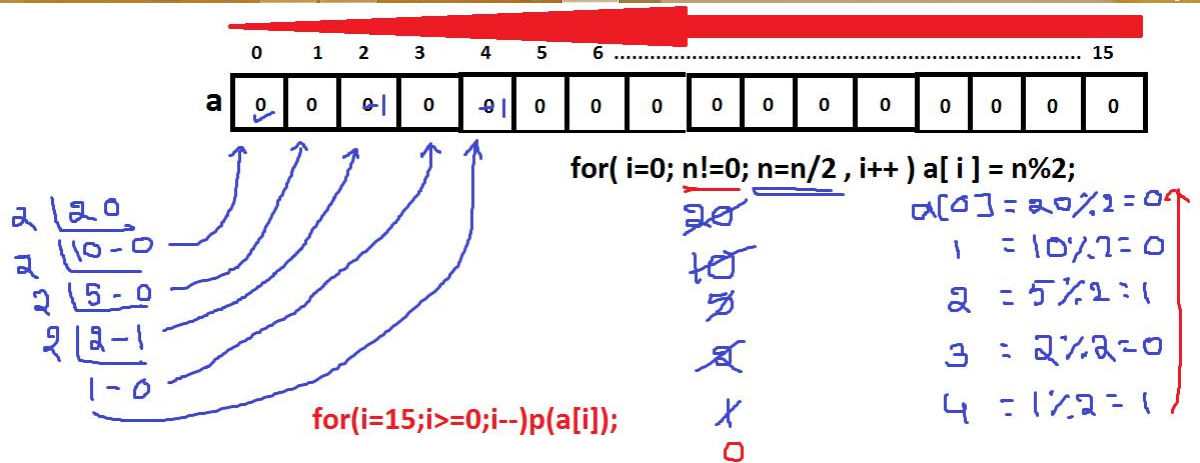
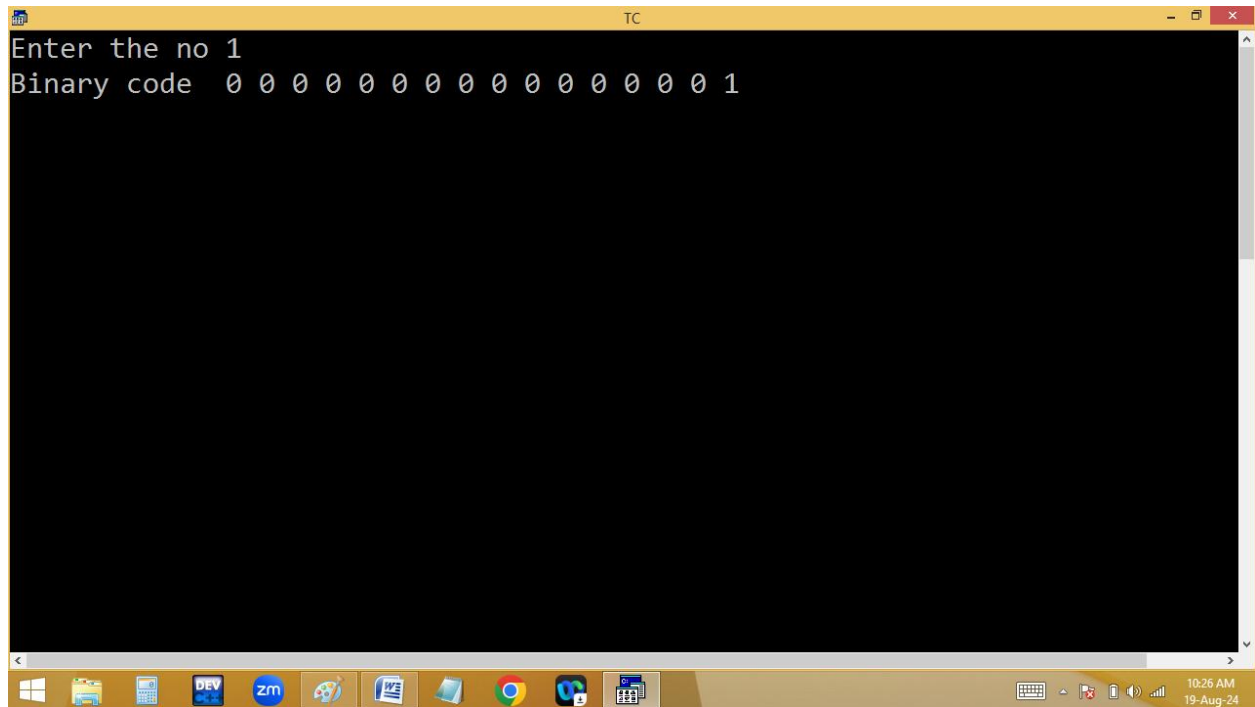
20 → 0000 0000 0001 0100



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 32 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[16]={0}, i,n;
clrscr();
printf("Enter the no ");scanf("%d",&n);
for(i=0;n!=0;i++,n=n/2)a[i]=n%2;
printf("Binary code ");for(i=15;i>=0;i--)printf("%2d",a[i]);
getch();
}
```

Enter the no 20  
Binary code 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0 0

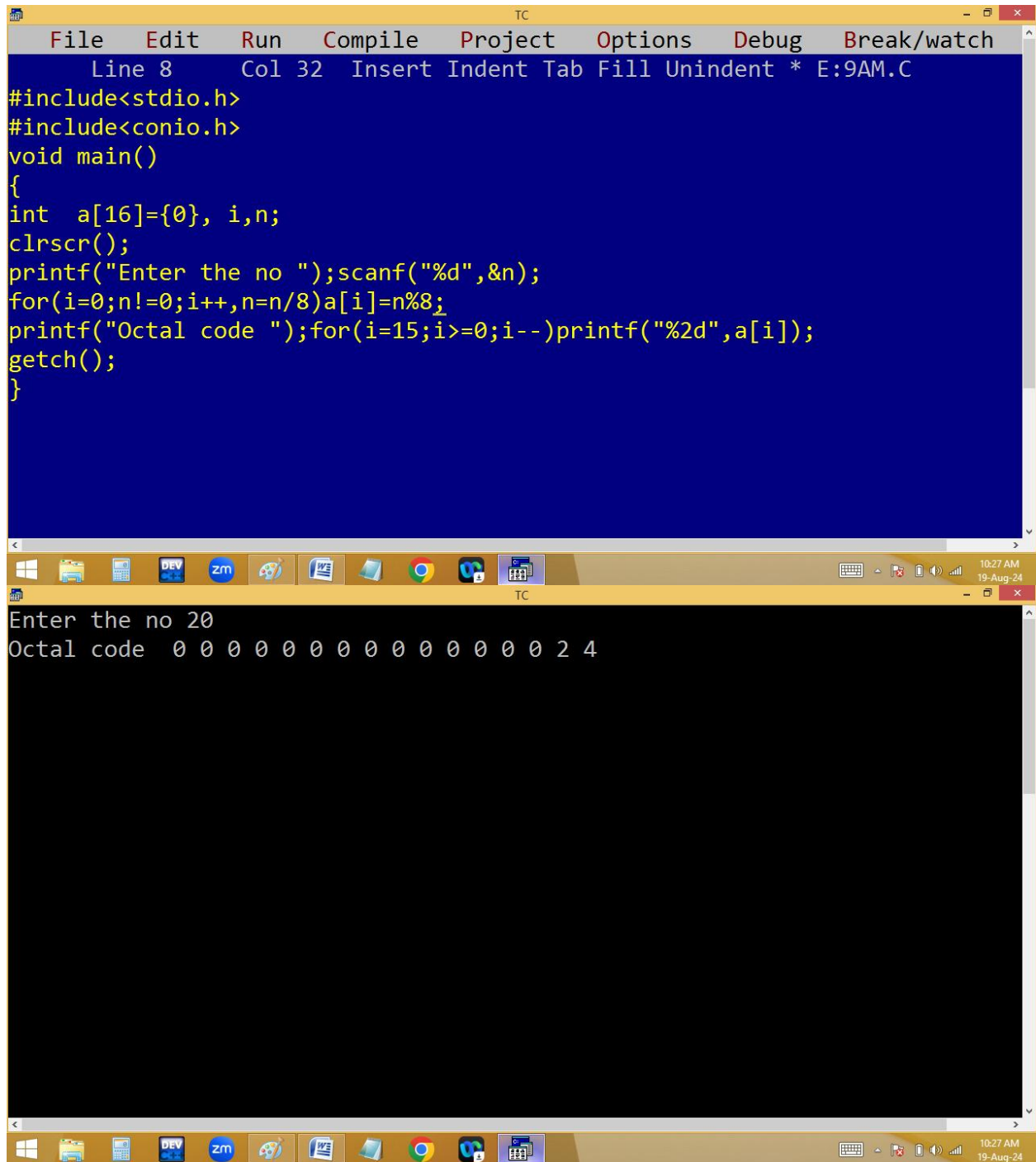




**Decimal to octal:**



$$\begin{array}{r} 8 \quad \sqrt{20} \\ \underline{2-4} \quad \checkmark \end{array}$$



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a C program that converts a decimal number to its octal representation. The code includes `<stdio.h>` and `<conio.h>`, and uses `scanf` to read a number `n`. It then uses a loop to calculate the octal digits by repeatedly dividing `n` by 8 and storing the remainders in an array `a`. Finally, it prints the octal code by iterating through the array in reverse order. The bottom window shows the program's execution: the user enters the number 20, and the program outputs the octal code 0000000000000024. The Windows taskbar at the bottom shows the date as 19-Aug-24 and the time as 10:27 AM.

```
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 32 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[16]={0}, i,n;
clrscr();
printf("Enter the no ");scanf("%d",&n);
for(i=0;n!=0;i++,n=n/8)a[i]=n%8;
printf("Octal code ");for(i=15;i>=0;i--)printf("%2d",a[i]);
getch();
}
```

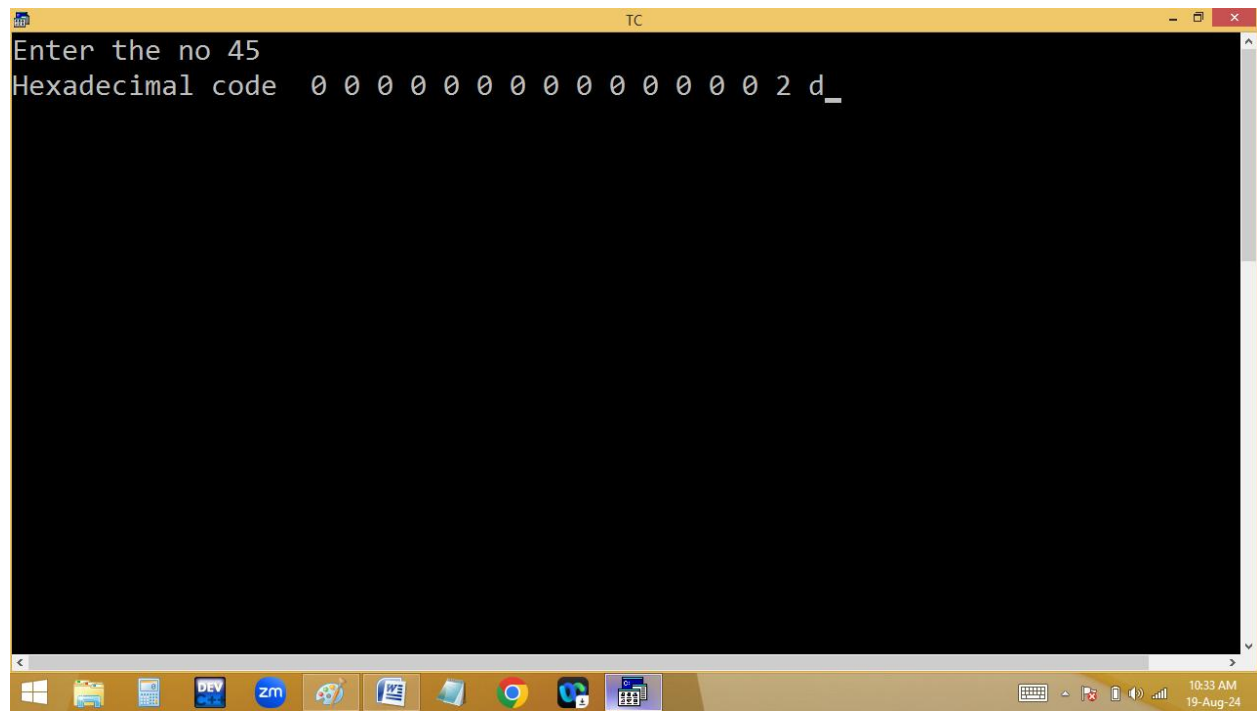
Enter the no 20  
Octal code 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 4

**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 1 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[16]={0}, i,n;
clrscr();
printf("Enter the no ");scanf("%d",&n);
for(i=0;n!=0;i++,n=n/16)a[i]=n%16;
printf("Hexadecimal code ");
for(i=15;i>=0;i--)
if(a[i]>=10) printf("%2c", 87+a[i]);
else printf("%2d",a[i]);
getch();
}

Enter the no 95
Hexadecimal code 0 0 0 0 0 0 0 0 0 0 0 0 0 0 5 f
```



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

$$\begin{array}{r} 16 \overline{) 95} \\ \underline{5 - 15} \\ f \end{array}$$

$$\begin{array}{r} 16 \overline{) 45} \\ \underline{2 - 13} \\ d \end{array}$$

**Arranging array elements in reverse order without using 3<sup>rd</sup> variable:**

**Method 1 printing in reverse order:**

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 1 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100], i,n;
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("Reverse order ");
for(n--;n>=0;n--) printf("%3d", a[n]);
getch();
}

Enter array size 1-100 5
Enter 5 elements 1 0 3 8 6
Reverse order 6 8 3 0 1_

TC
10:37 AM
19-Aug-24
```



**Permanent arrangement:**

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 1 Col 38 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100], i,n;
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++)
{
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];
}
printf("Reverse order ");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
Reverse order 5 4 3 2 1_

TC
10:45 AM
19-Aug-24
```

```
TC
Enter array size 1-100 4
Enter 4 elements 2 0 1 8
Reverse order  8  1  0  2_
```

