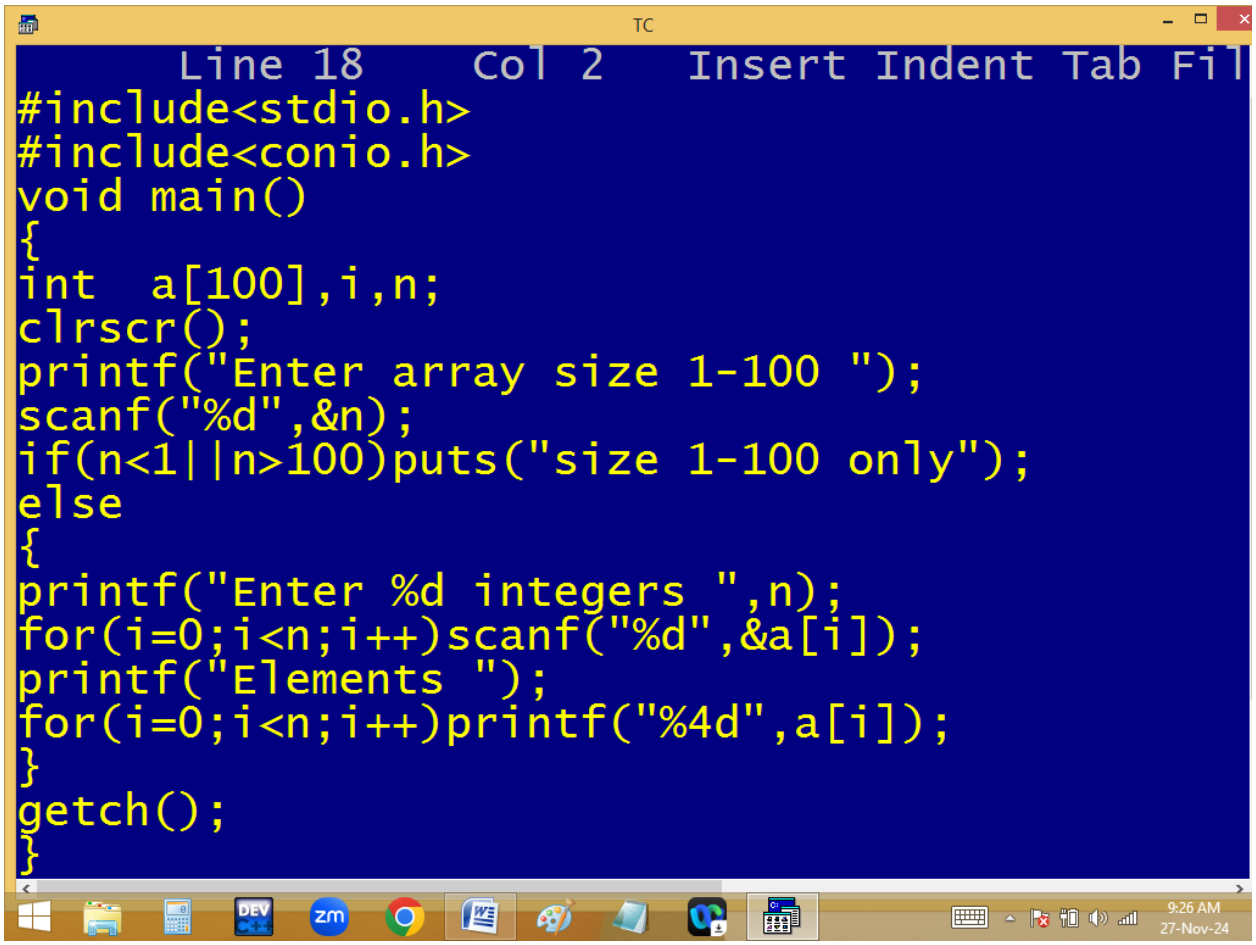
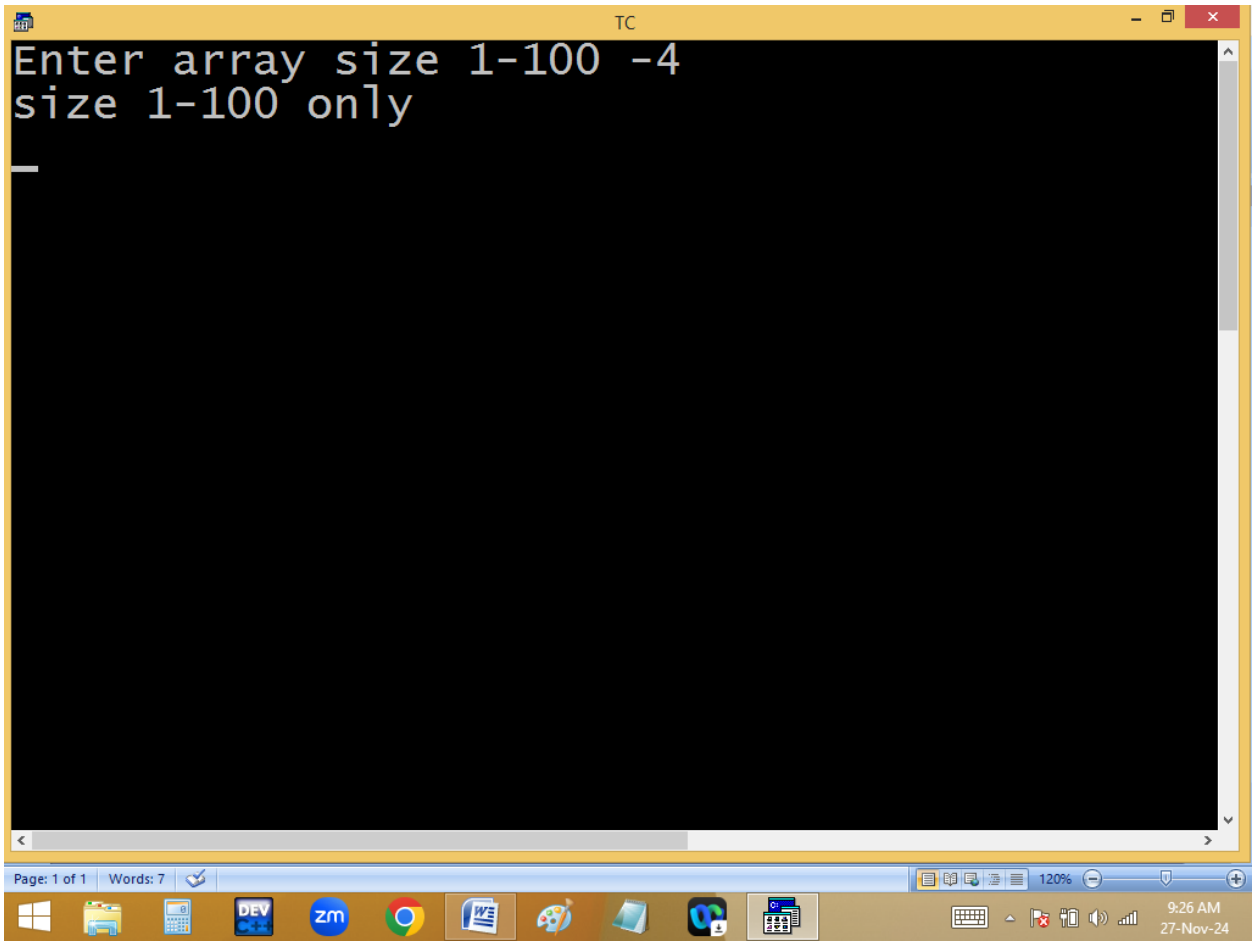
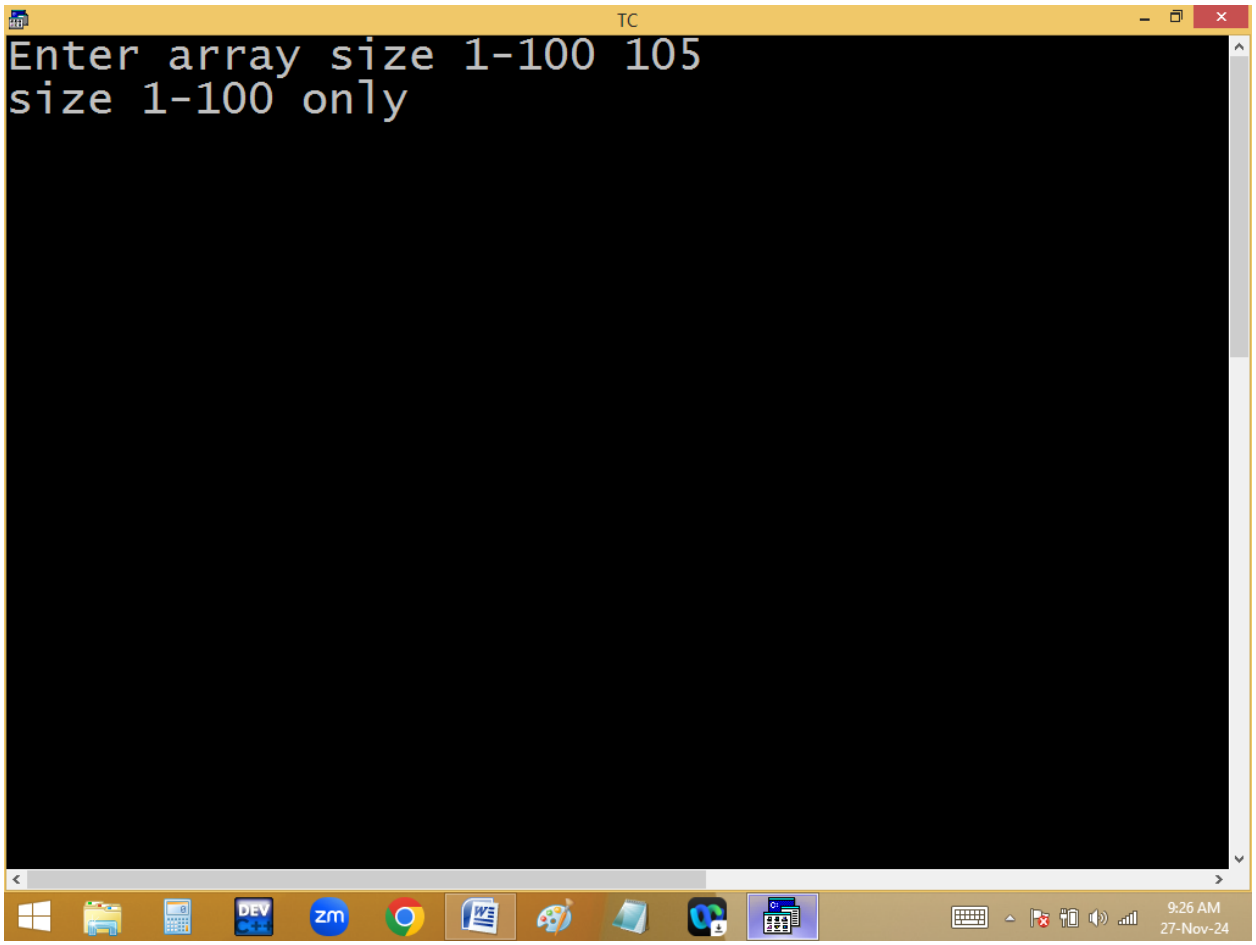
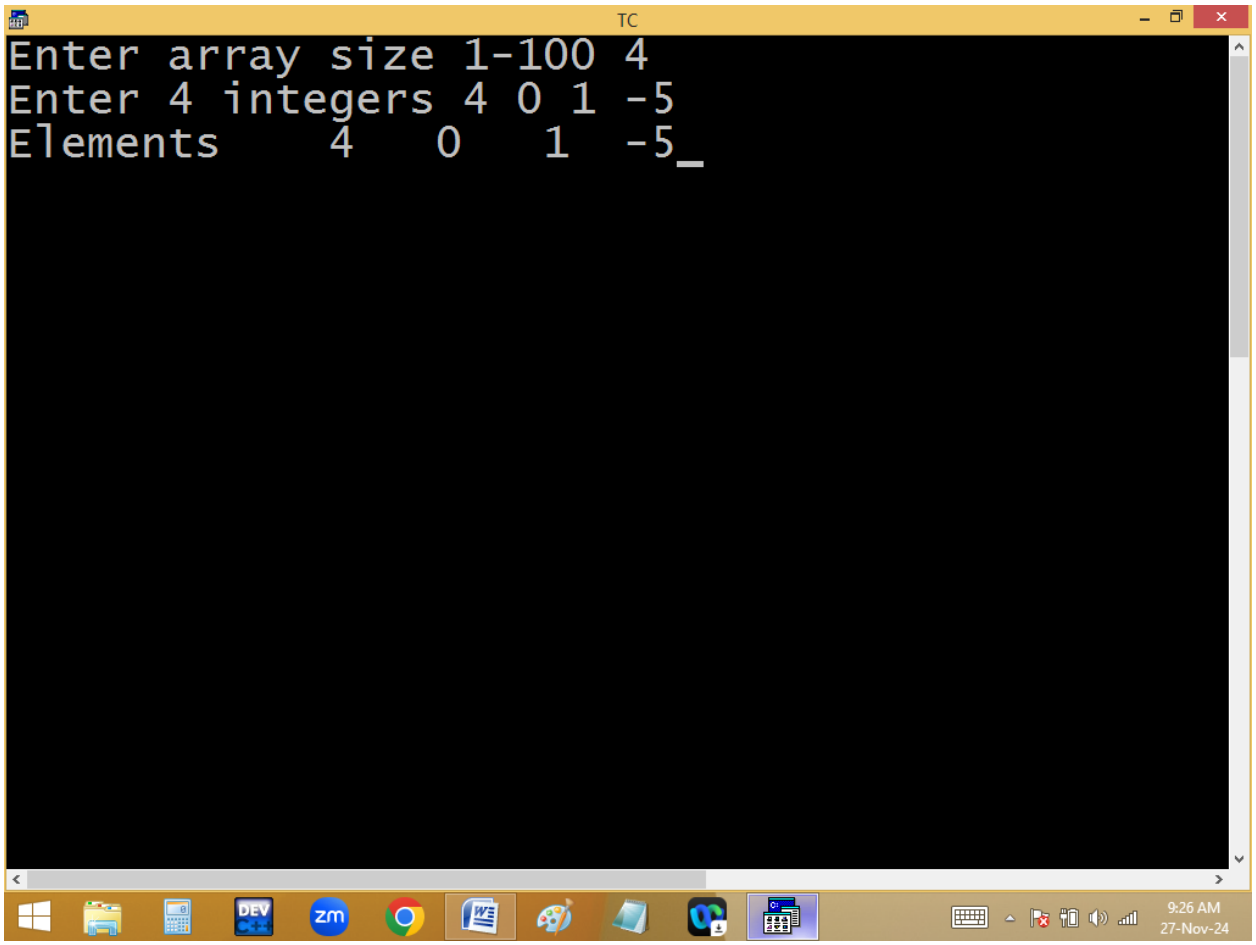
Reading and printing n elements of array:

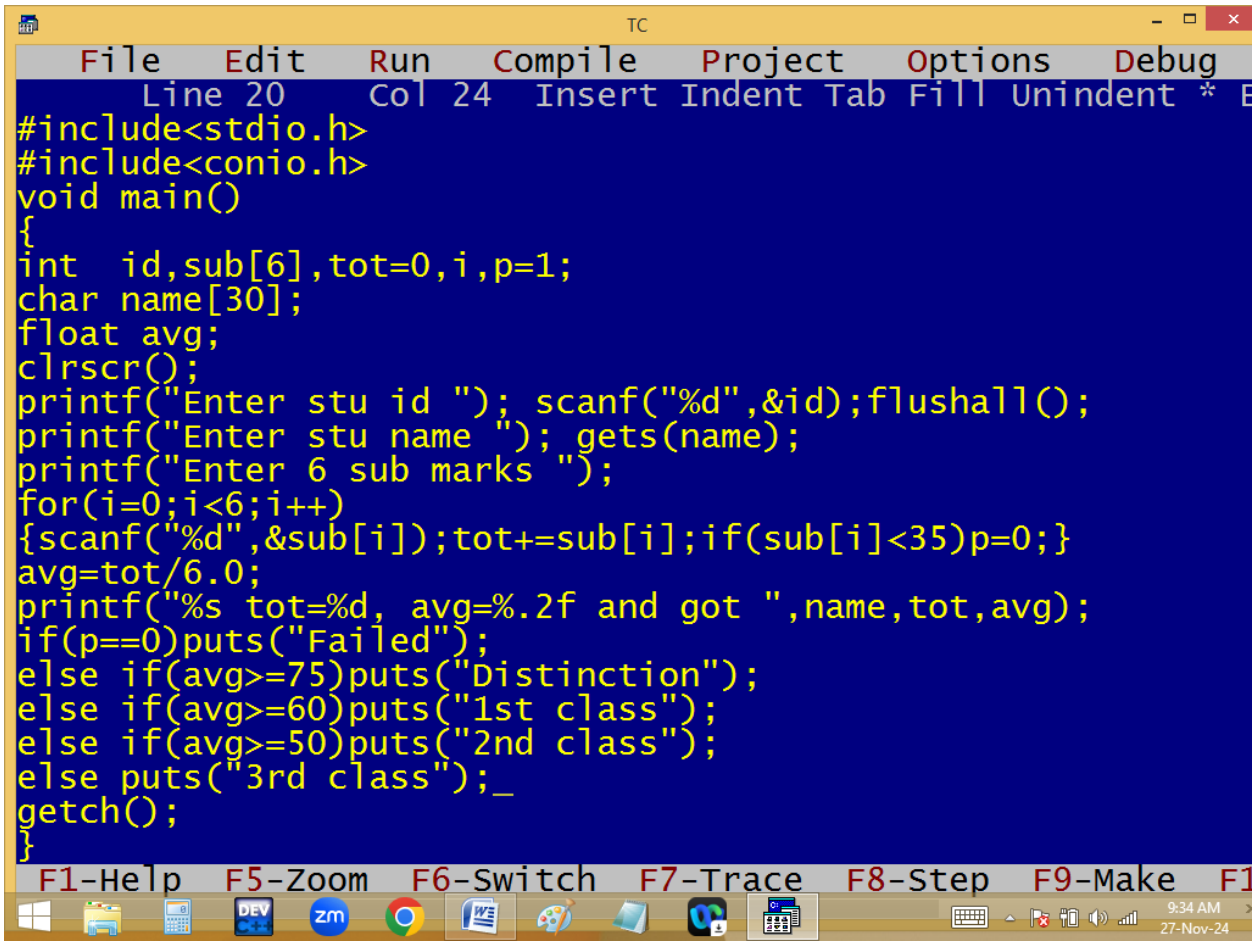

TC
Line 18 Col 2 Insert Indent Tab Fil
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],i,n;
clrscr();
printf("Enter array size 1-100 ");
scanf("%d",&n);
if(n<1||n>100)puts("size 1-100 only");
else
{
printf("Enter %d integers ",n);
for(i=0;i<n;i++)scanf("%d",&a[i]);
printf("Elements ");
for(i=0;i<n;i++)printf("%4d",a[i]);
}
getch();
}
9:26 AM
27-Nov-24

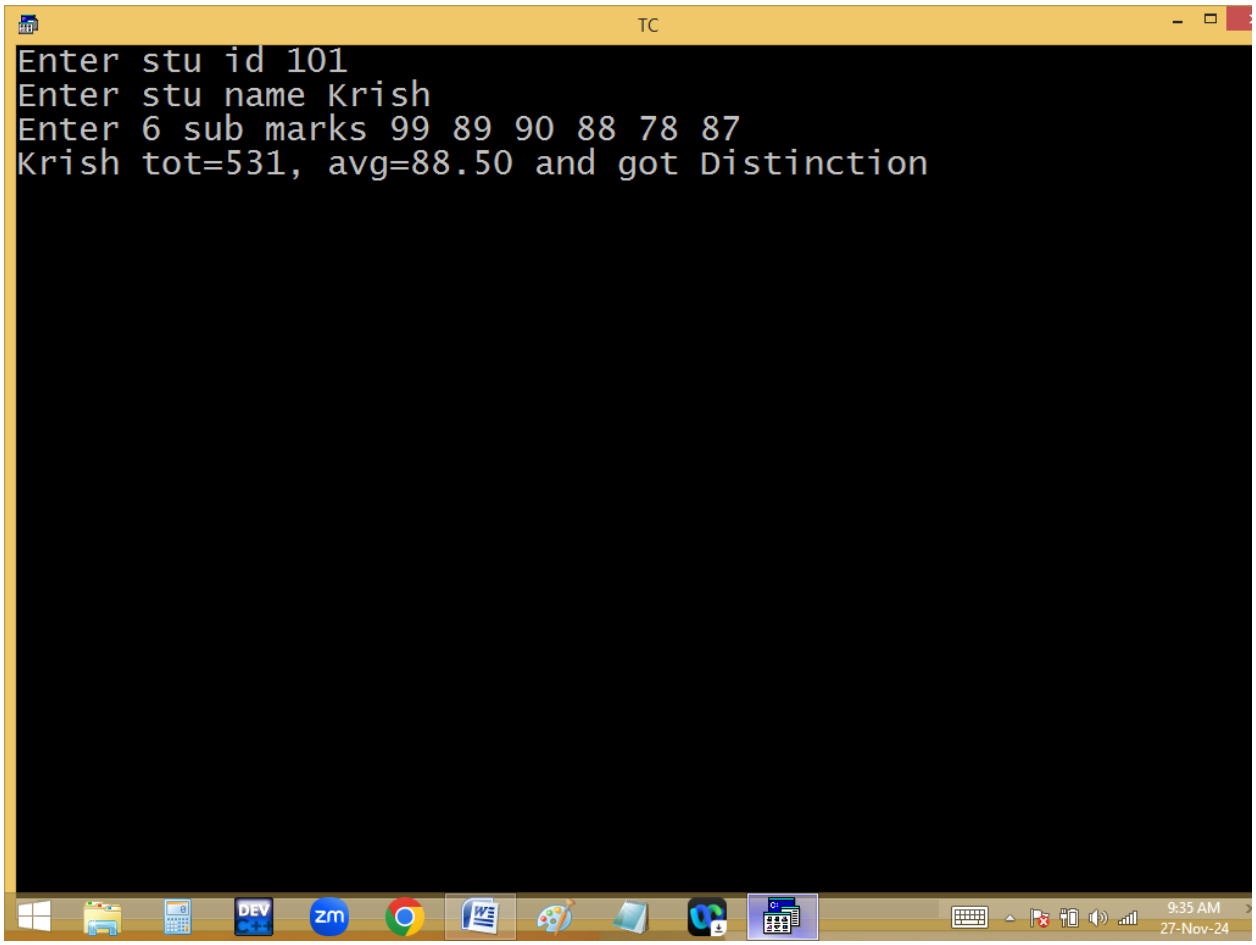

TC
Enter array size 1-100 -4
size 1-100 only
Page: 1 of 1
Words: 7
120%
9:26 AM
27-Nov-24

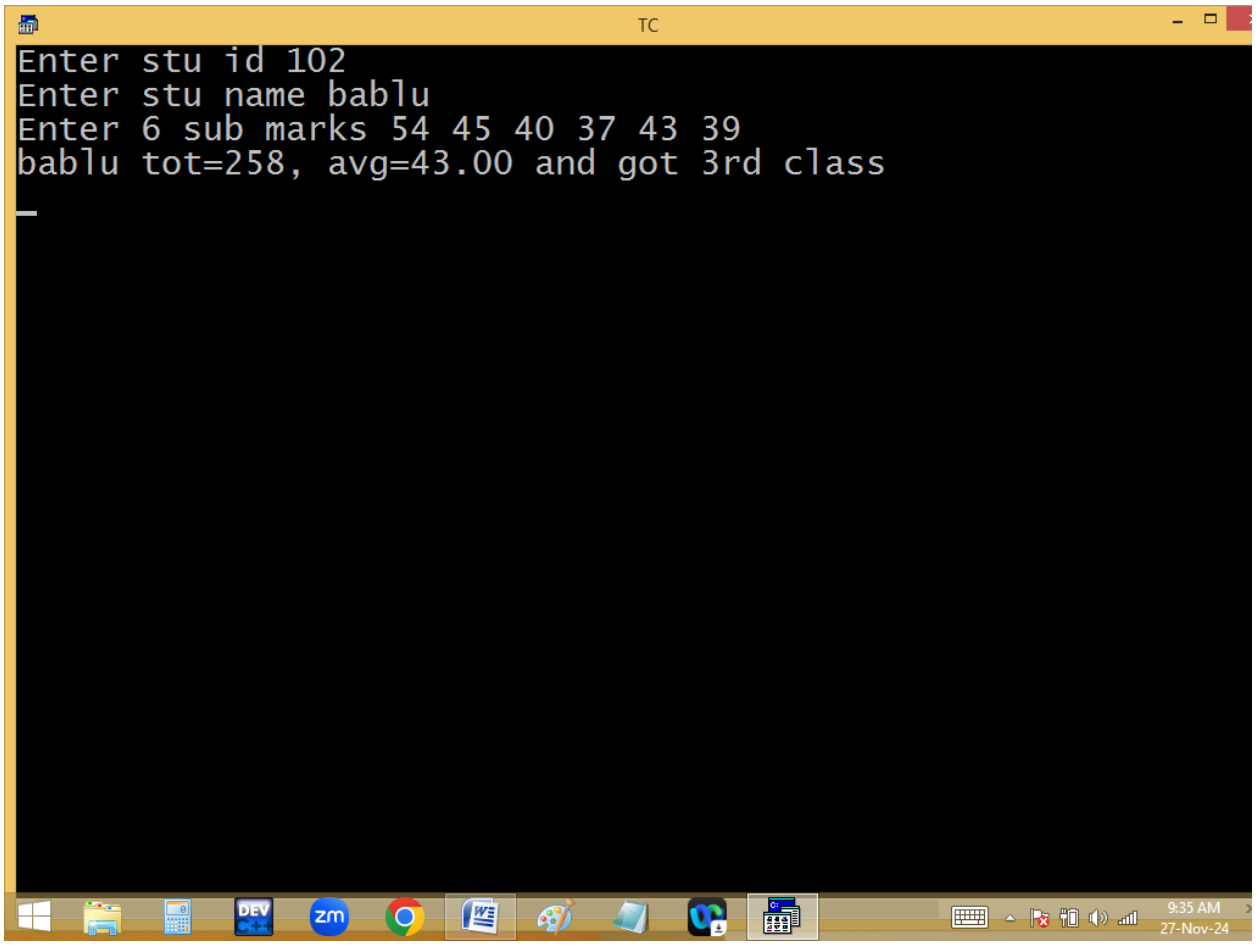

TC
Enter array size 1-100 105
size 1-100 only
9:26 AM
27-Nov-24

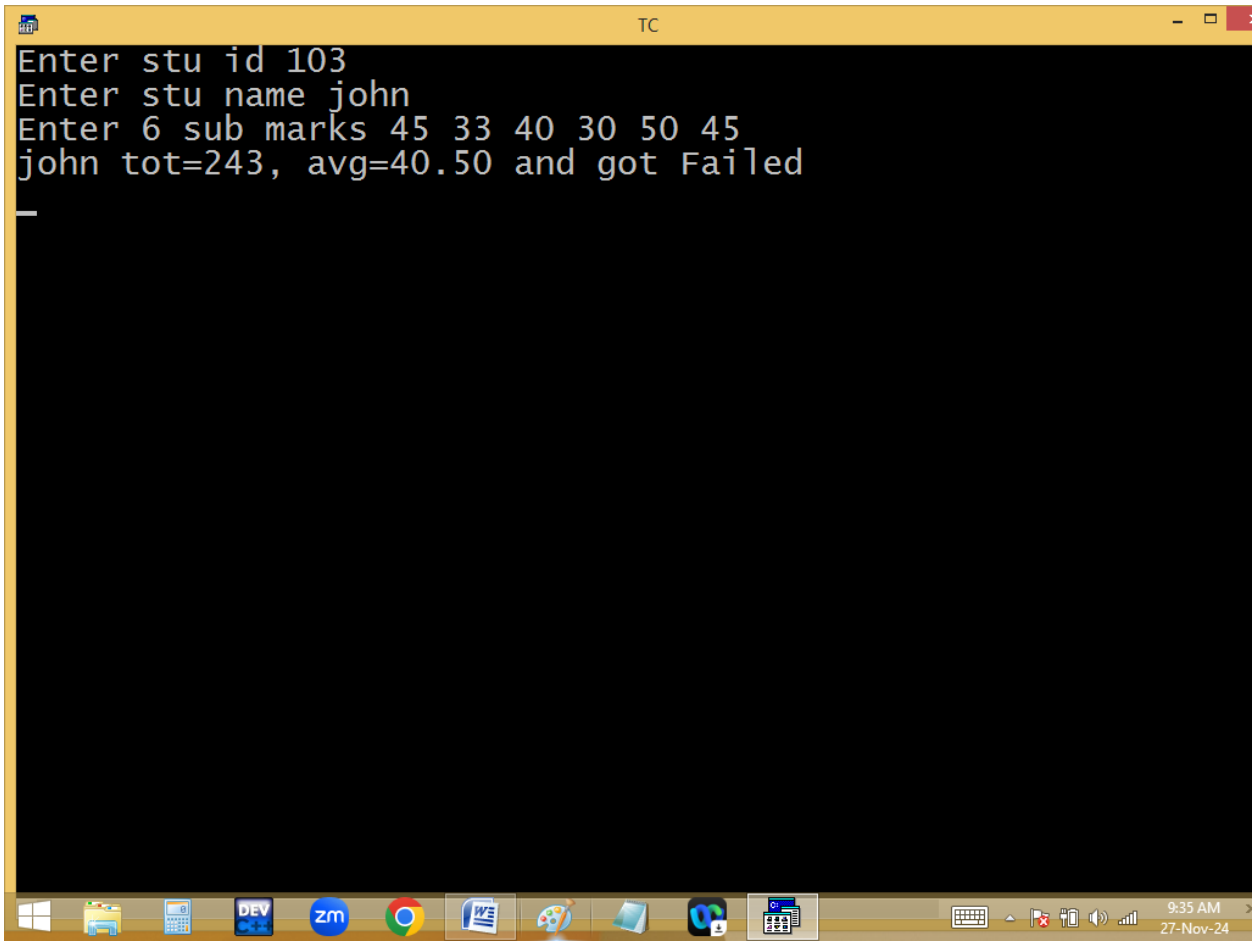


Finding stu result using array:


TC
File Edit Run Compile Project Options Debug
Line 20 Col 24 Insert Indent Tab Fill Unindent
#include<stdio.h>
#include<conio.h>
void main()
{
int id,sub[6],tot=0,i,p=1;
char name[30];
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;
printf("%s tot=%d, avg=%.2f and got ",name,tot,avg);
if(p==0)puts("Failed");
else if(avg>=75)puts("Distinction");
else if(avg>=60)puts("1st class");
else if(avg>=50)puts("2nd class");
else puts("3rd class");
getch();
}
F1-Help F5-Zoom F6-Switch F7-Trace F8-Step F9-Make
9:34 AM
27-Nov-24

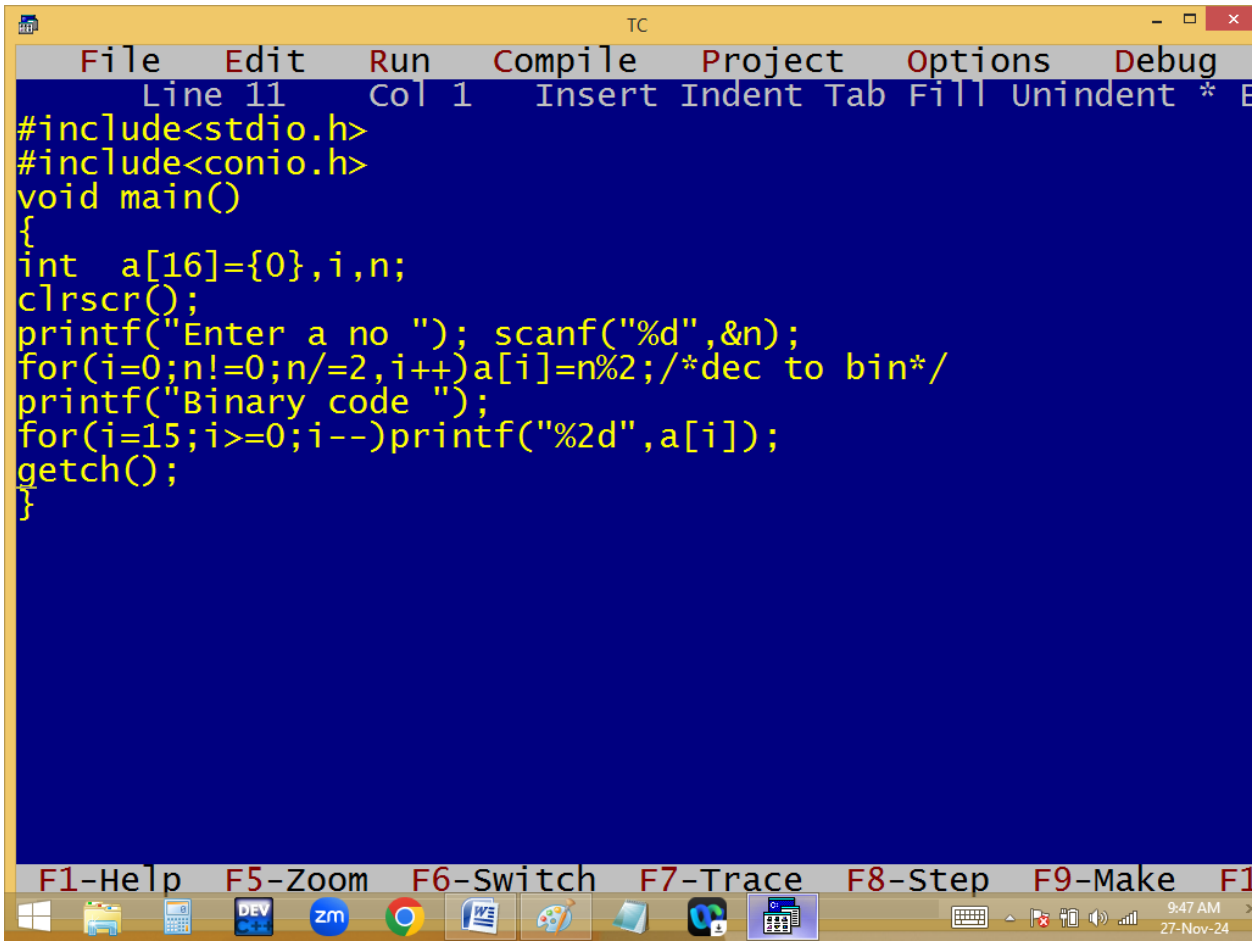

TC
Enter stu id 101
Enter stu name Krish
Enter 6 sub marks 99 89 90 88 78 87
Krish tot=531, avg=88.50 and got Distinction
9:35 AM
27-Nov-24

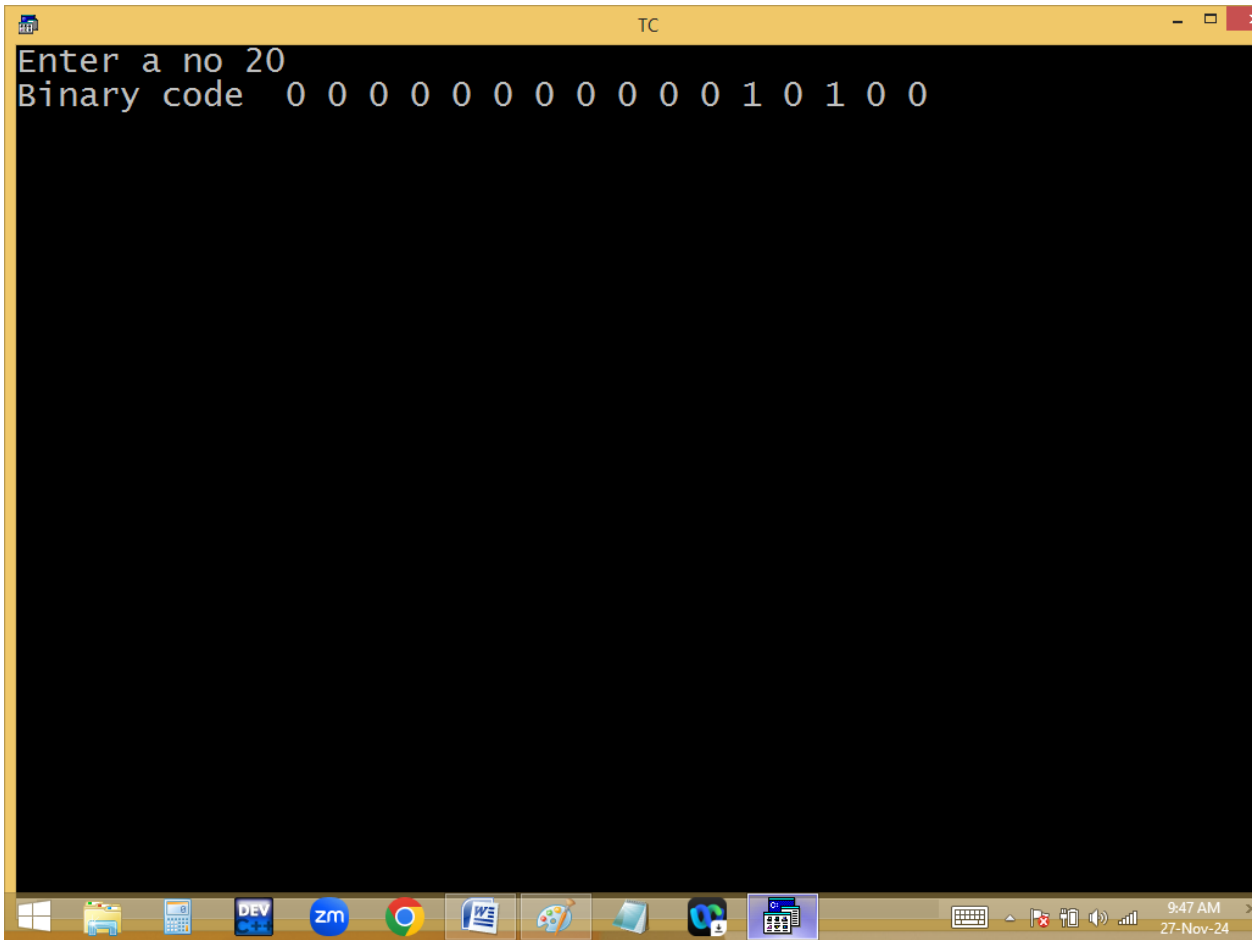

TC
Enter stu id 102
Enter stu name bablu
Enter 6 sub marks 54 45 40 37 43 39
bablu tot=258, avg=43.00 and got 3rd class
9:35 AM
27-Nov-24

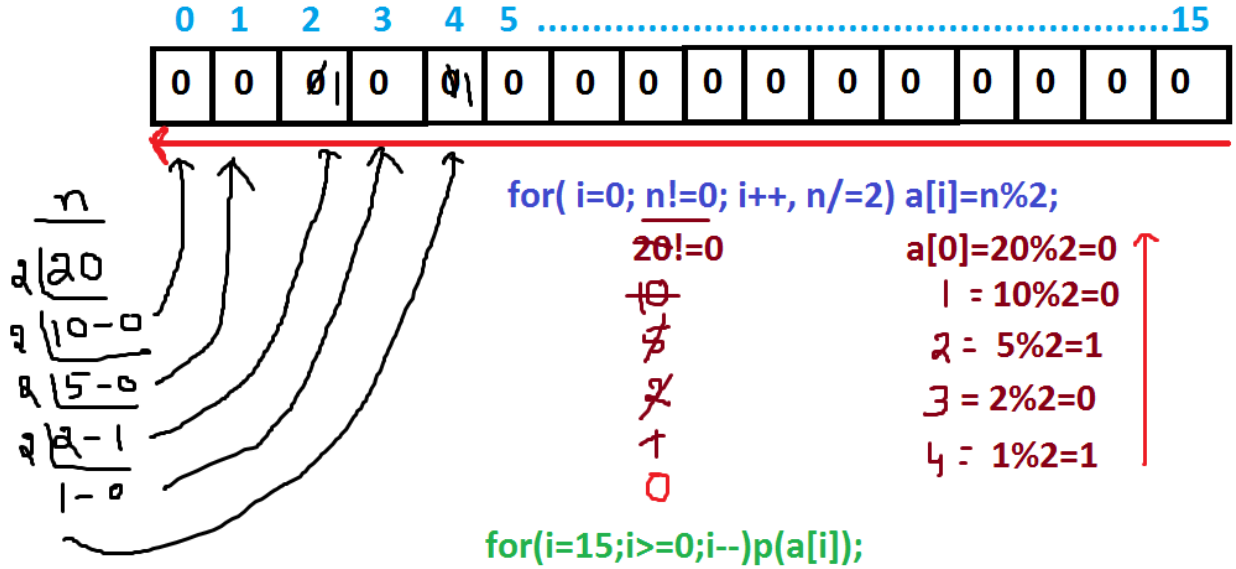


Decimal to binary conversion:

n=20 ➔ 0000 0000 0001 0100


TC
File Edit Run Compile Project Options Debug
Line 11 Col 1 Insert Indent Tab Fill Unindent
#include<stdio.h>
#include<conio.h>
void main()
{
int a[16]={0},i,n;
clrscr();
printf("Enter a no "); scanf("%d",&n);
for(i=0;n!=0;n/=2,i++)a[i]=n%2;/*dec to bin*/
printf("Binary code ");
for(i=15;i>=0;i--)printf("%2d",a[i]);
getch();
}
F1-Help F5-Zoom F6-Switch F7-Trace F8-Step F9-Make
9:47 AM
27-Nov-24

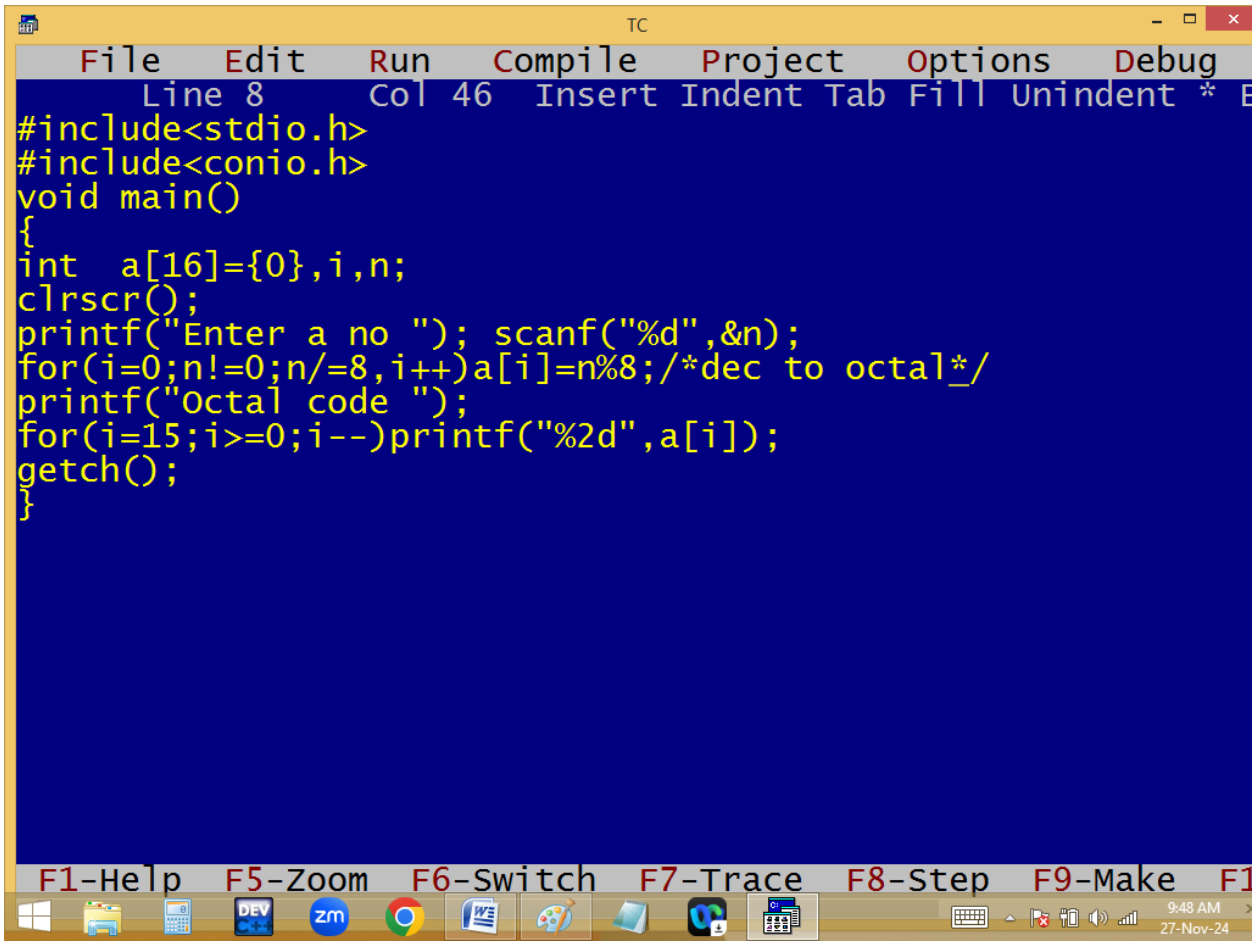


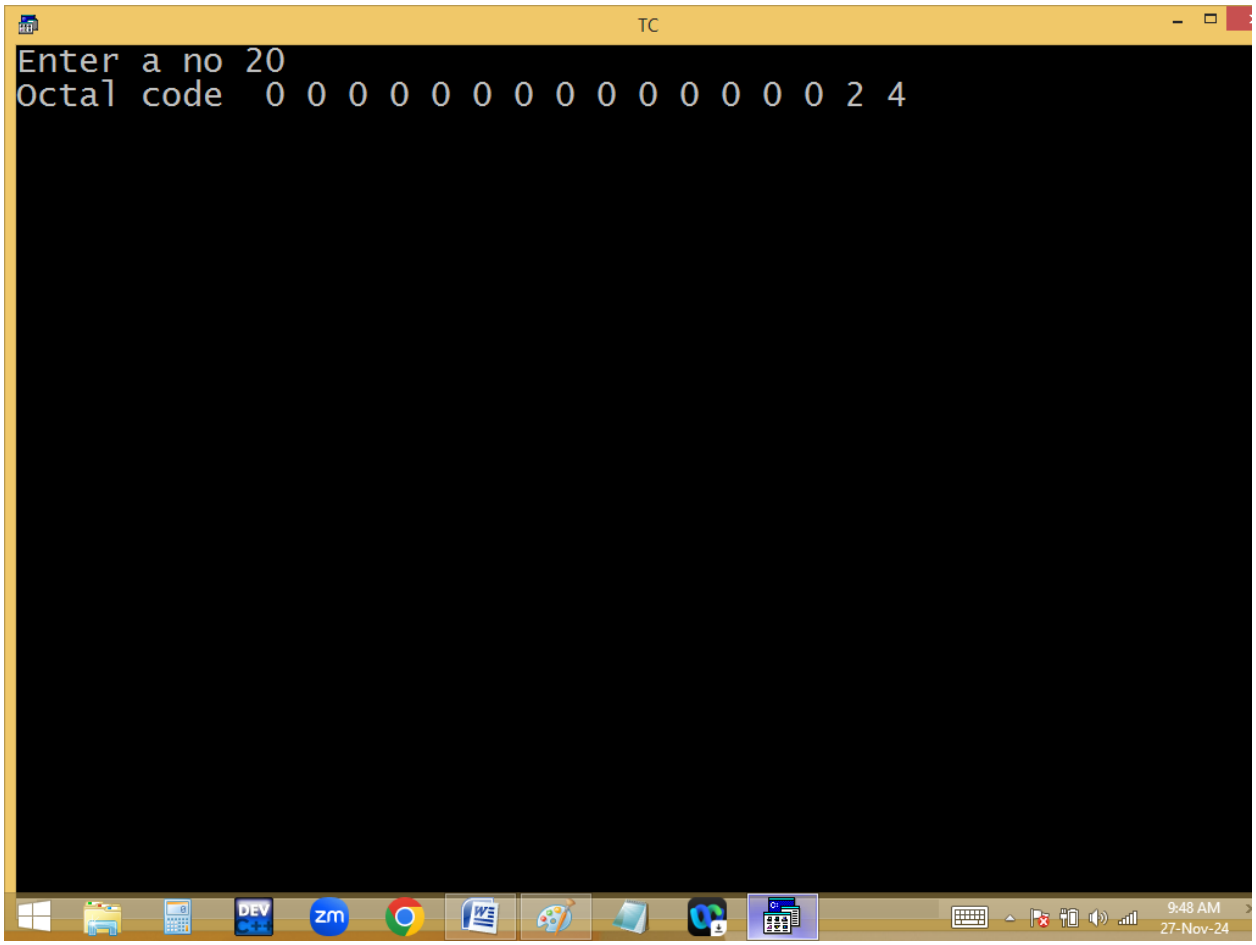


Decimal to octal:

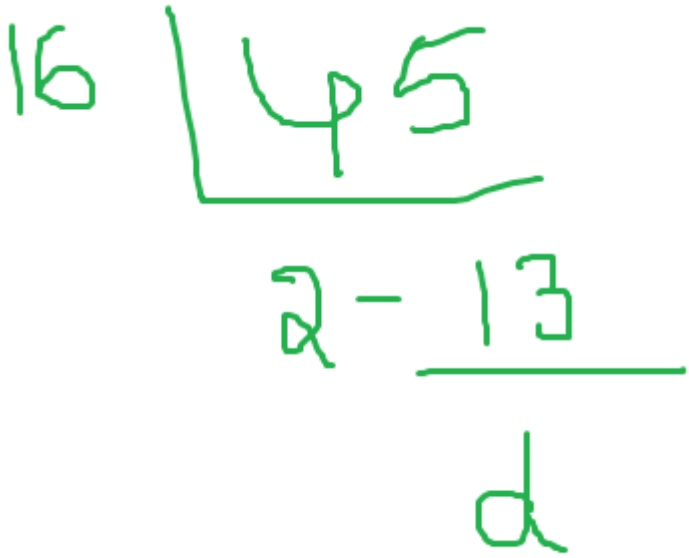
8 | 20

2 - 4 ✓


TC
File Edit Run Compile Project Options Debug
Line 8 Col 46 Insert Indent Tab Fill Unindent
#include<stdio.h>
#include<conio.h>
void main()
{
int a[16]={0},i,n;
clrscr();
printf("Enter a no "); scanf("%d",&n);
for(i=0;n!=0;n/=8,i++)a[i]=n%8;/*dec to octal*/
printf("Octal code ");
for(i=15;i>=0;i--)printf("%2d",a[i]);
getch();
}
F1-Help F5-Zoom F6-Switch F7-Trace F8-Step F9-Make
9:48 AM
27-Nov-24



Decimal to hexadecimal:



TC

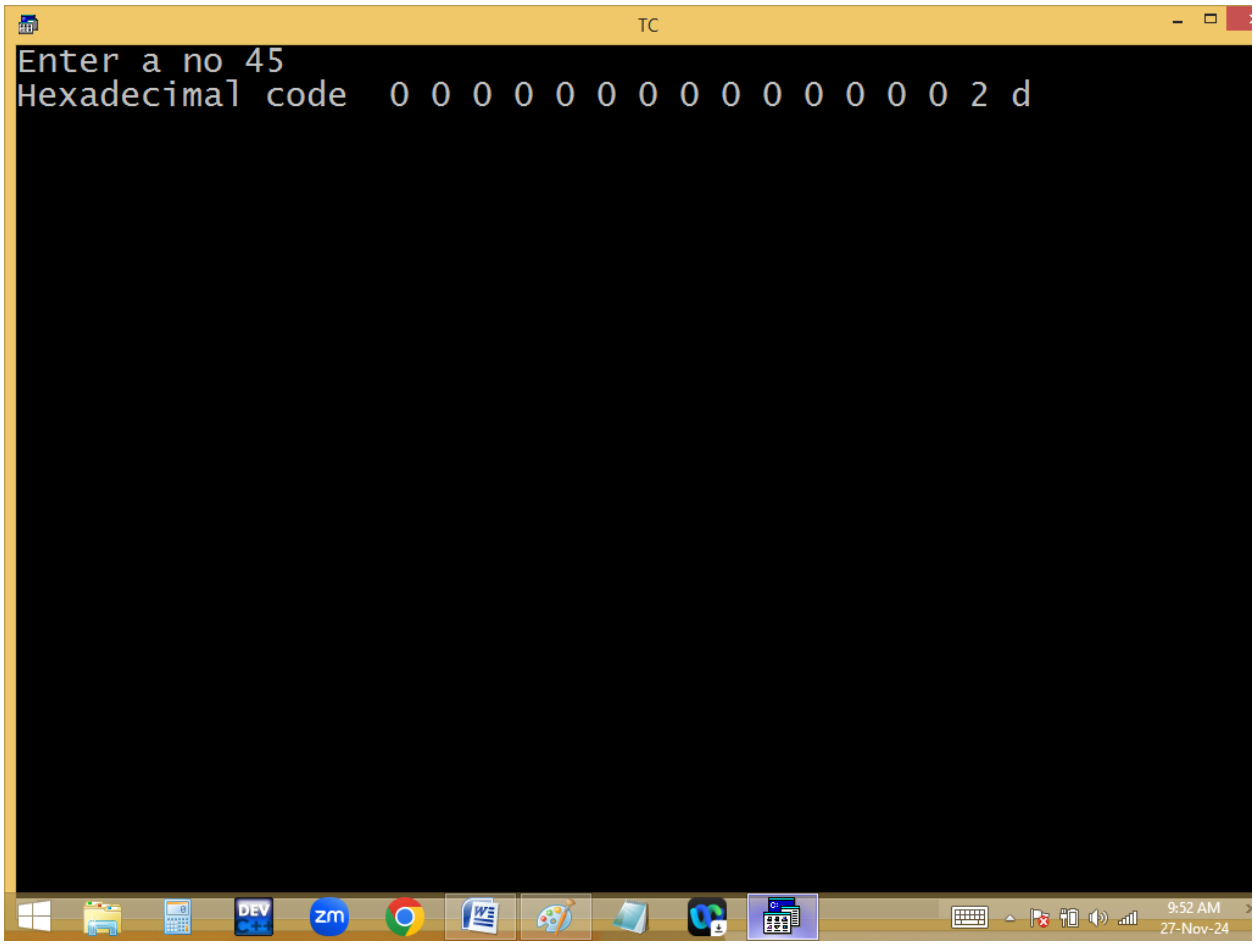
File Edit Run Compile Project Options Debug

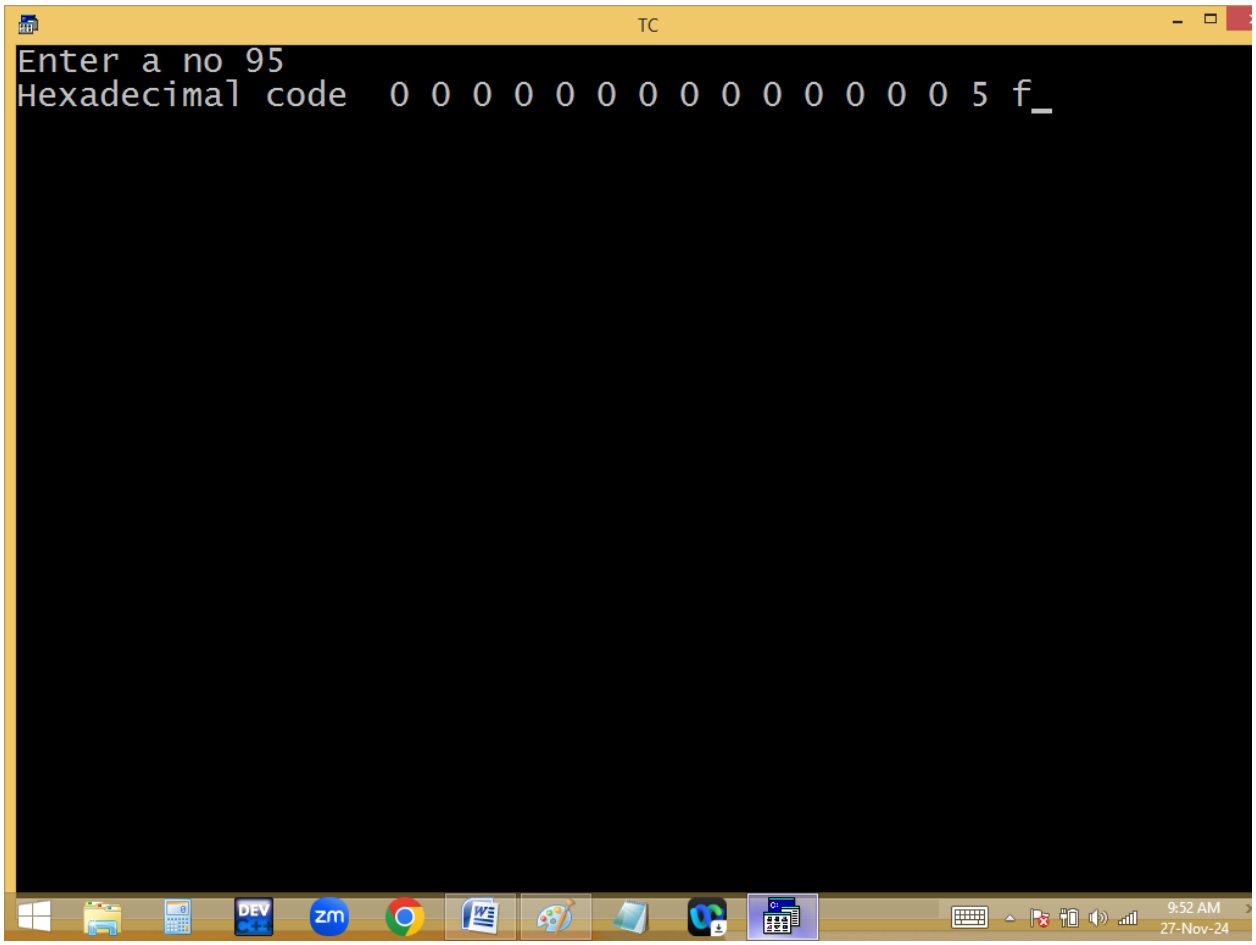
Line 11 Col 40 Insert Indent Tab Fill Unindent * E

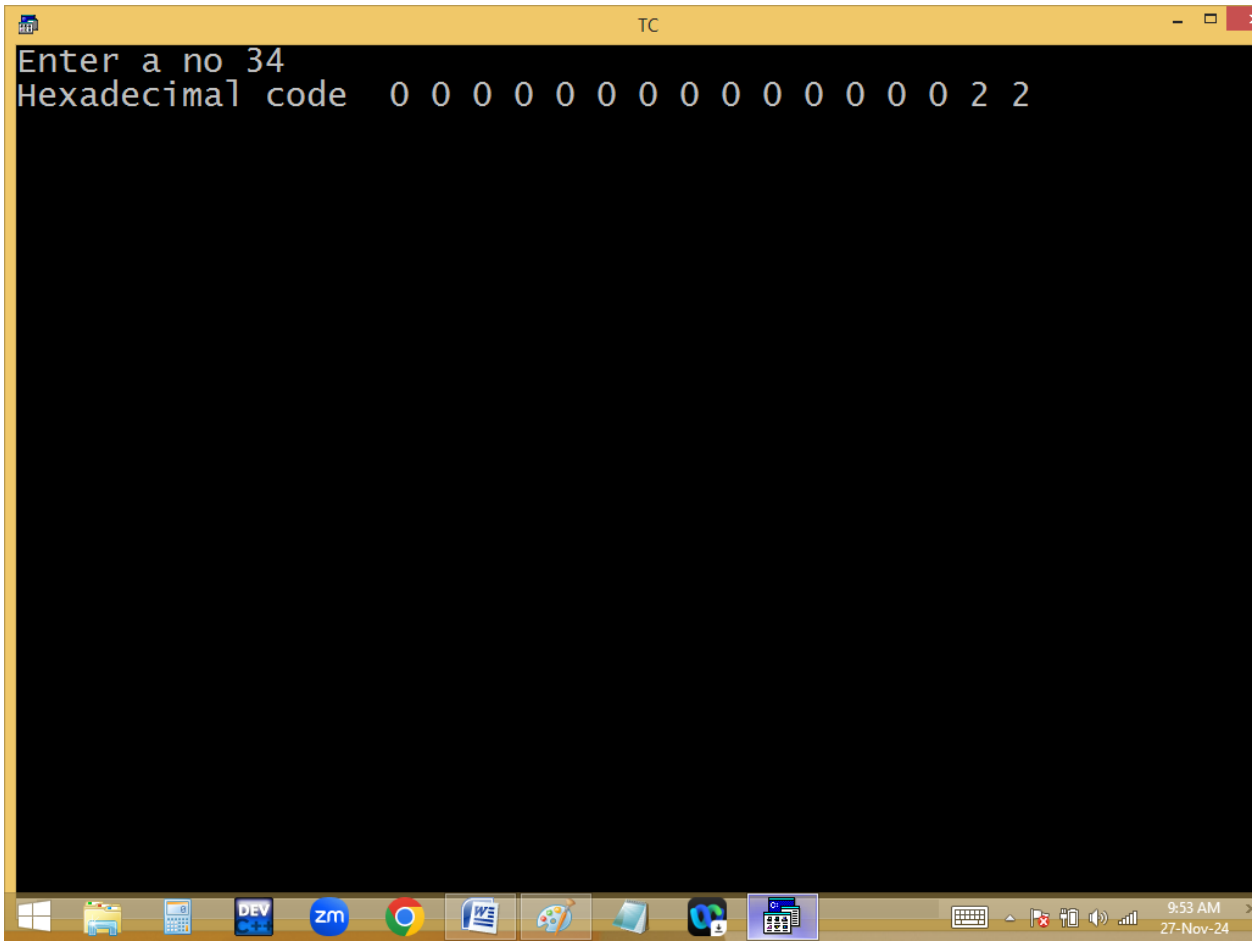
```
#include<stdio.h>
#include<conio.h>
void main()
{
int  a[16]={0},i,n;
clrscr();
printf("Enter a no "); scanf("%d",&n);
for(i=0;n!=0;n/=16,i++)a[i]=n%16;/*dec to hexa*/
printf("Hexadecimal code ");
for(i=15;i>=0;i--)
if(a[i]>=10)printf("%2c",87+a[i]);else printf("%2d",a[i]);
getch();
}
```

F1-Help F5-Zoom F6-Switch F7-Trace F8-Step F9-Make F1

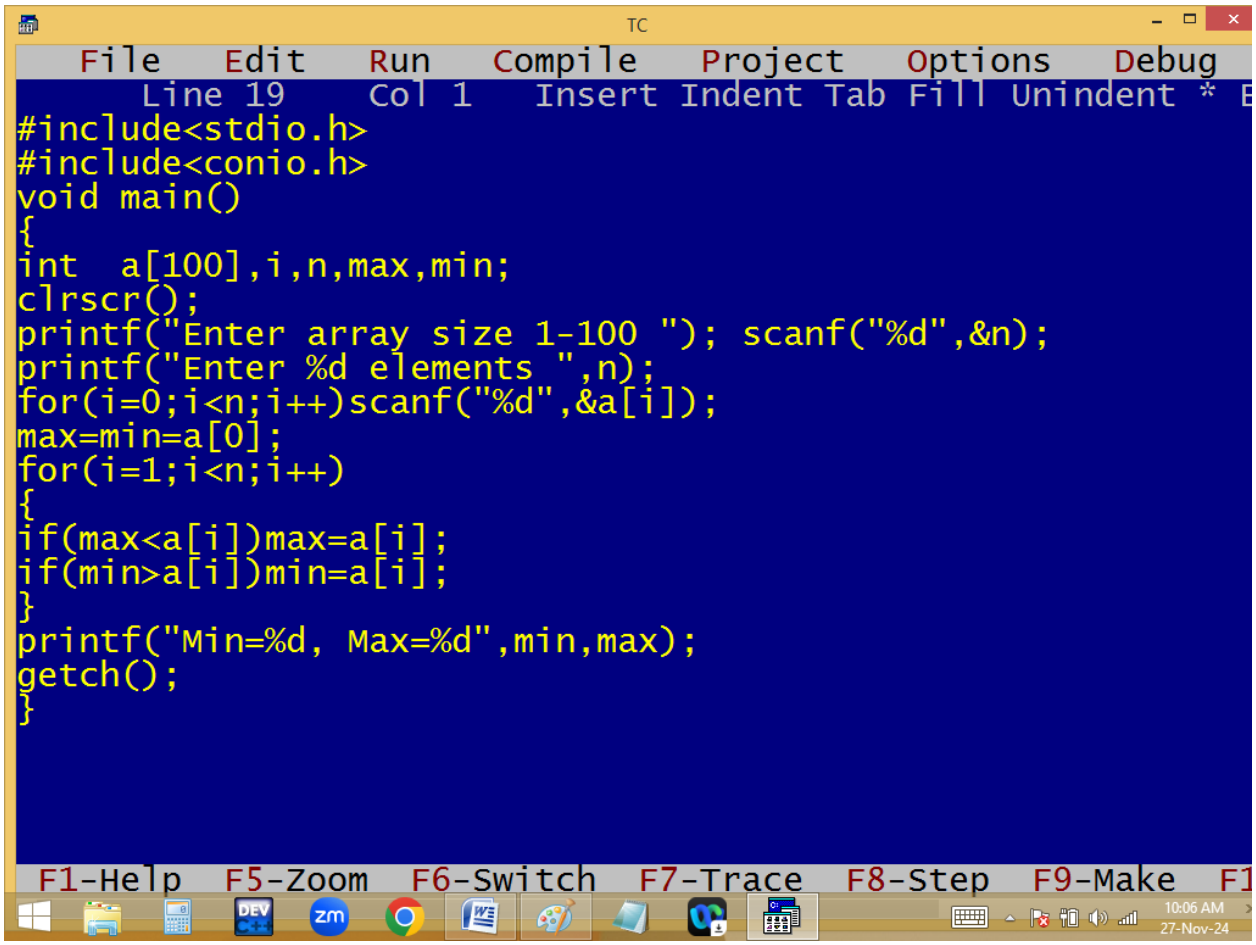
9:52 AM
27-Nov-24

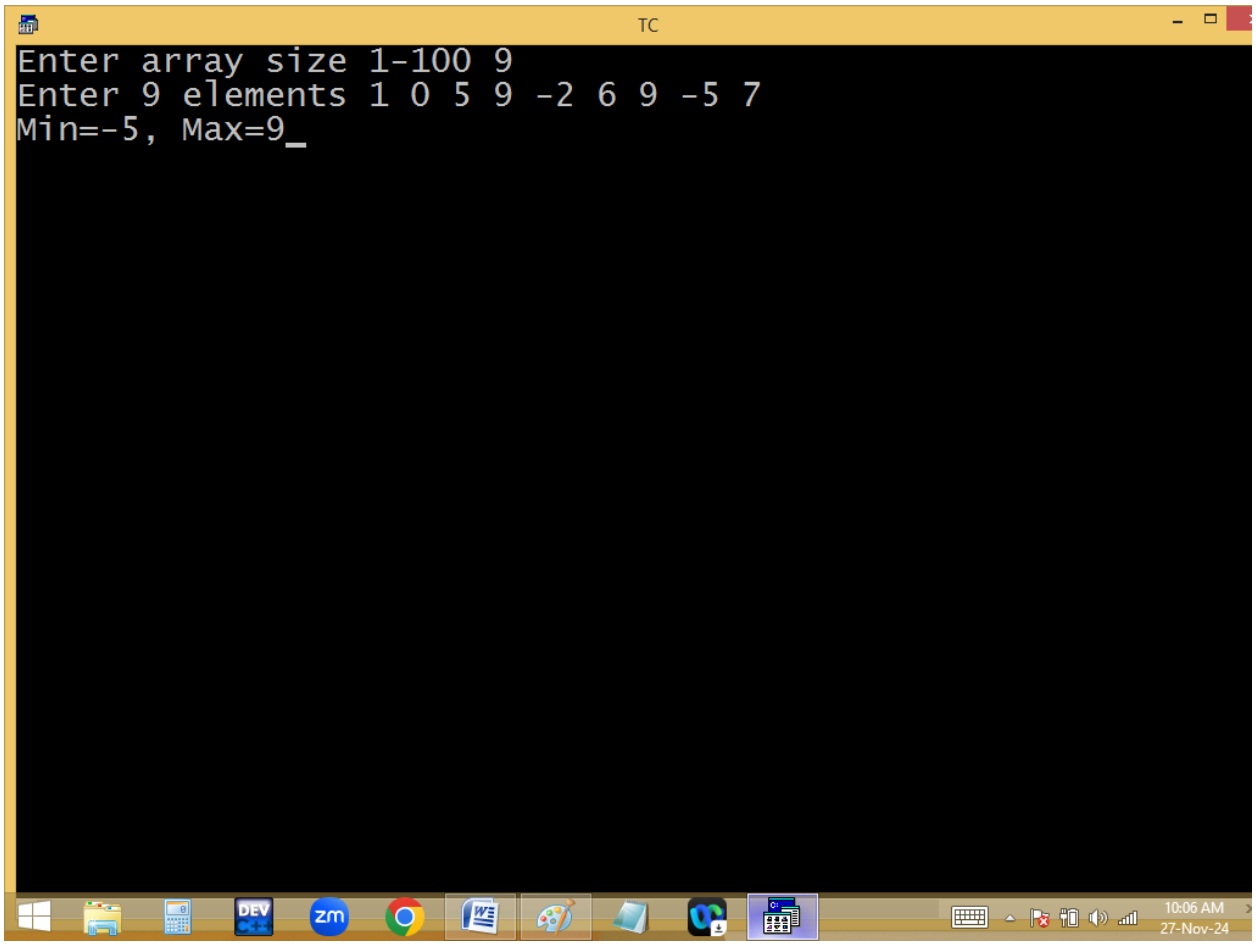

TC
Enter a no 45
Hexadecimal code 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 d
9:52 AM
27-Nov-24


TC
Enter a no 95
Hexadecimal code 0 0 0 0 0 0 0 0 0 0 0 0 0 0 5 f
9:52 AM
27-Nov-24



Read n elements into array and find the max, min elements.


TC
File Edit Run Compile Project Options Debug
Line 19 Col 1 Insert Indent Tab Fill Unindent
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],i,n,max,min;
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]);
max=min=a[0];
for(i=1;i<n;i++)
{
if(max<a[i])max=a[i];
if(min>a[i])min=a[i];
}
printf("Min=%d, Max=%d",min,max);
getch();
}
F1-Help F5-Zoom F6-Switch F7-Trace F8-Step F9-Make
10:06 AM
27-Nov-24

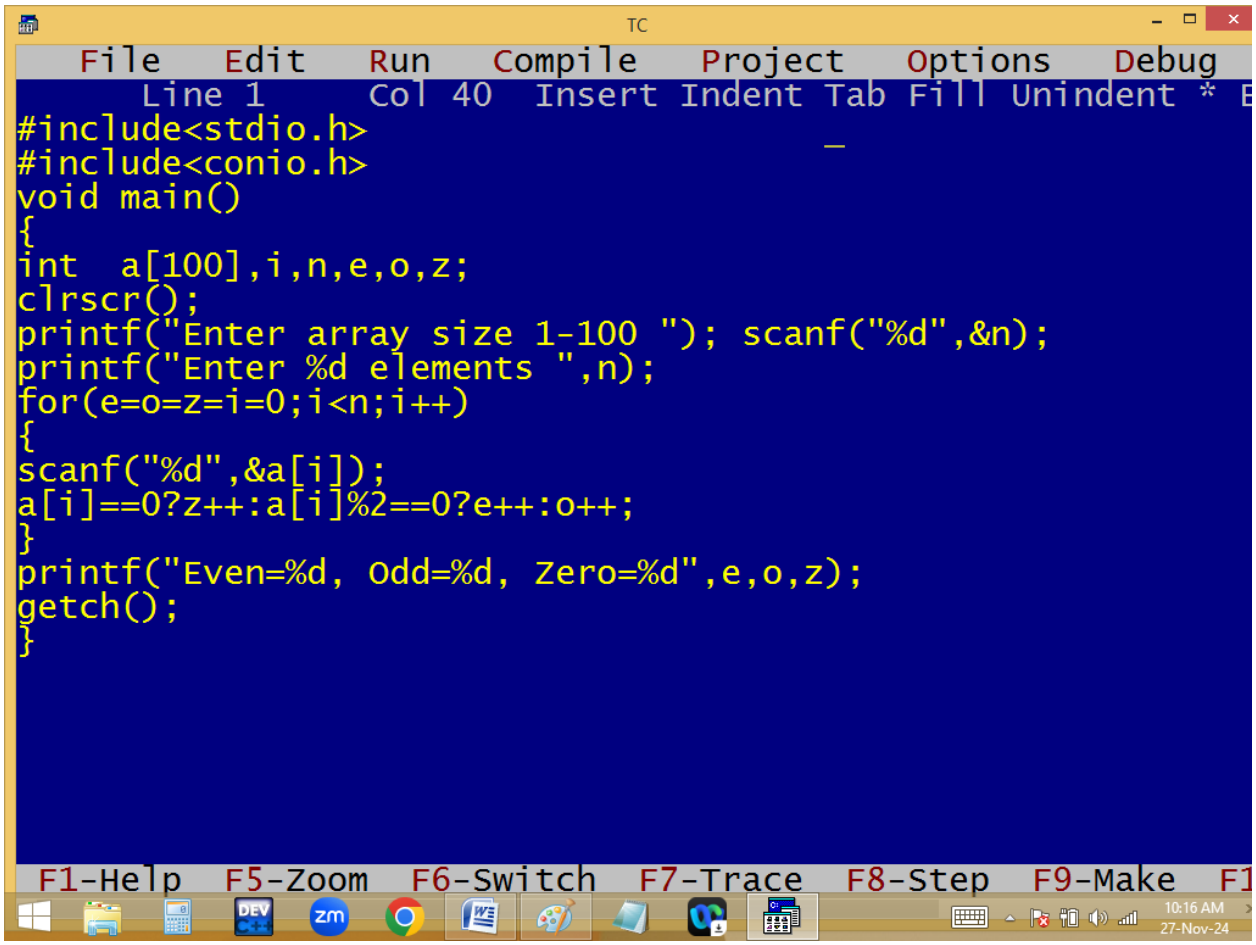


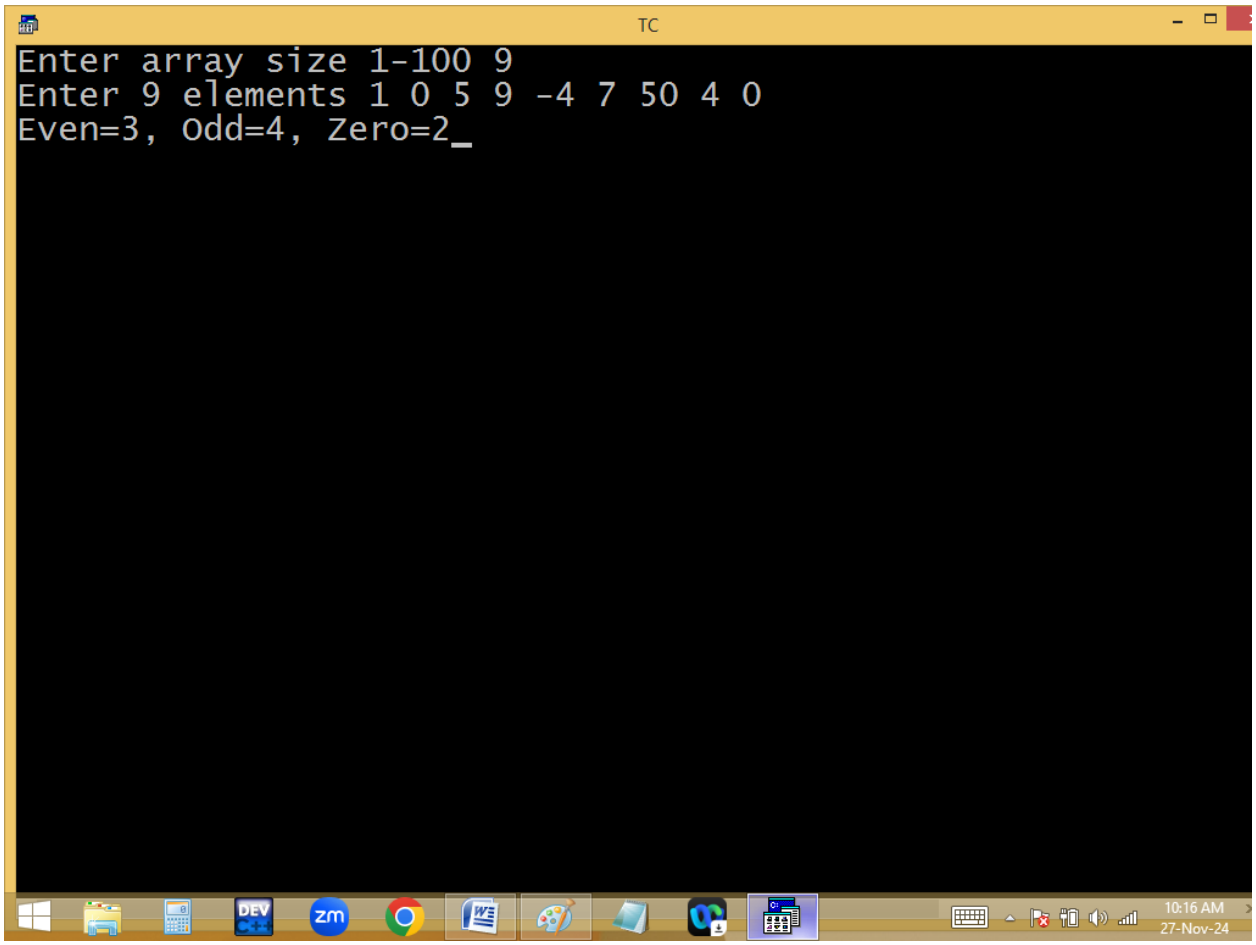

```
max=min=a[0];

for(i=1;i<5;i++)
{
if(max<a[i])max=a[i];
if(min>a[i])min=a[i];
}
p(max, min);
```

9	4	-1	-7	20
0	1	2	3	4

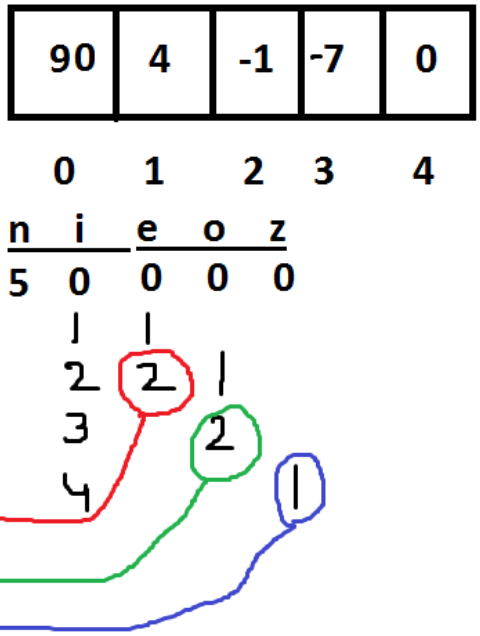
n	i	max	min
5	1	9<4	9>4
	2	9<1	4>-1
	3	9<-1	-1>-7
	4	9<20	-7>20

Finding no of even/odd/zero elements in given array:


TC
File Edit Run Compile Project Options Debug
Line 1 Col 40 Insert Indent Tab Fill Unindent
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],i,n,e,o,z;
clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);
for(e=o=z=i=0;i<n;i++)
{
scanf("%d",&a[i]);
a[i]==0?z++:a[i]%2==0?e++:o++;
}
printf("Even=%d, Odd=%d, Zero=%d",e,o,z);
getch();
}
F1-Help F5-Zoom F6-Switch F7-Trace F8-Step F9-Make
10:16 AM
27-Nov-24

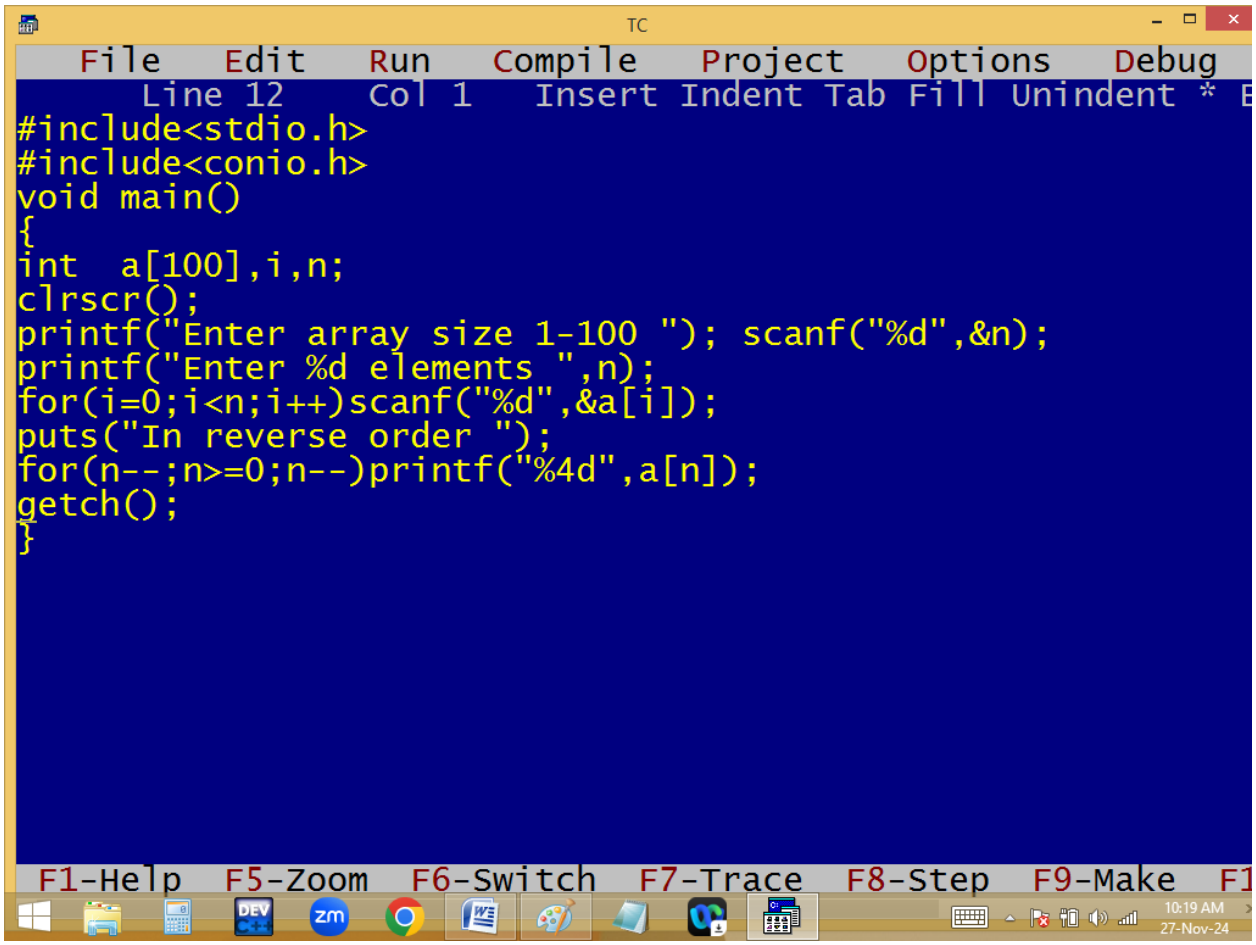


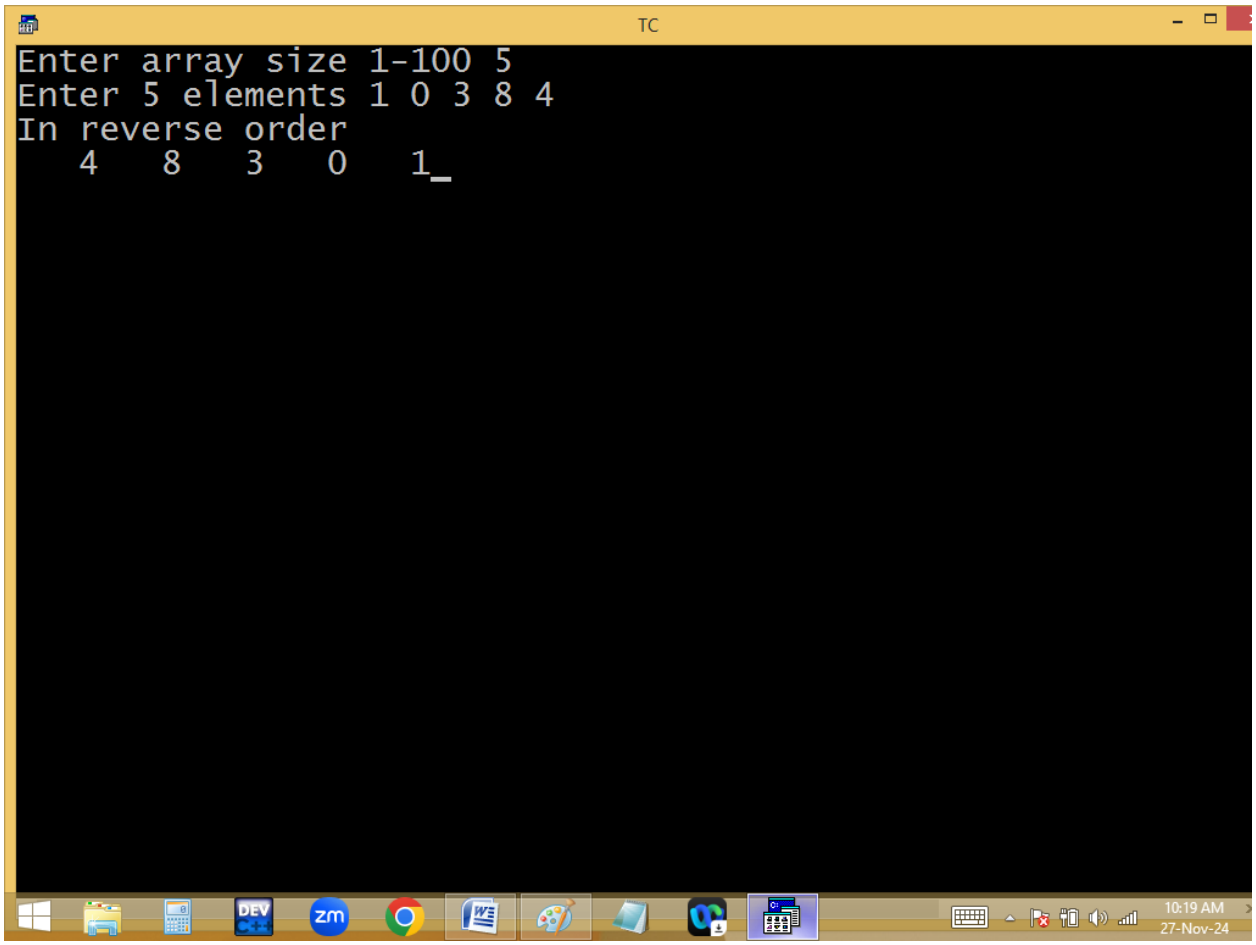

```
for(i=0;i<5;i++)
{
scanf("%d",&a[i]);
if(a[i]==0)z++;
else if(a[i]%2==0)e++;
else o++;
}
p(e, o, z);
```



Arranging array elements in reverse order:

Printing:


TC
File Edit Run Compile Project Options Debug
Line 12 Col 1 Insert Indent Tab Fill Unindent
#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]);
puts("In reverse order ");
for(n--;n>=0;n--)printf("%4d",a[n]);
getch();
}
F1-Help F5-Zoom F6-Switch F7-Trace F8-Step F9-Make
10:19 AM
27-Nov-24

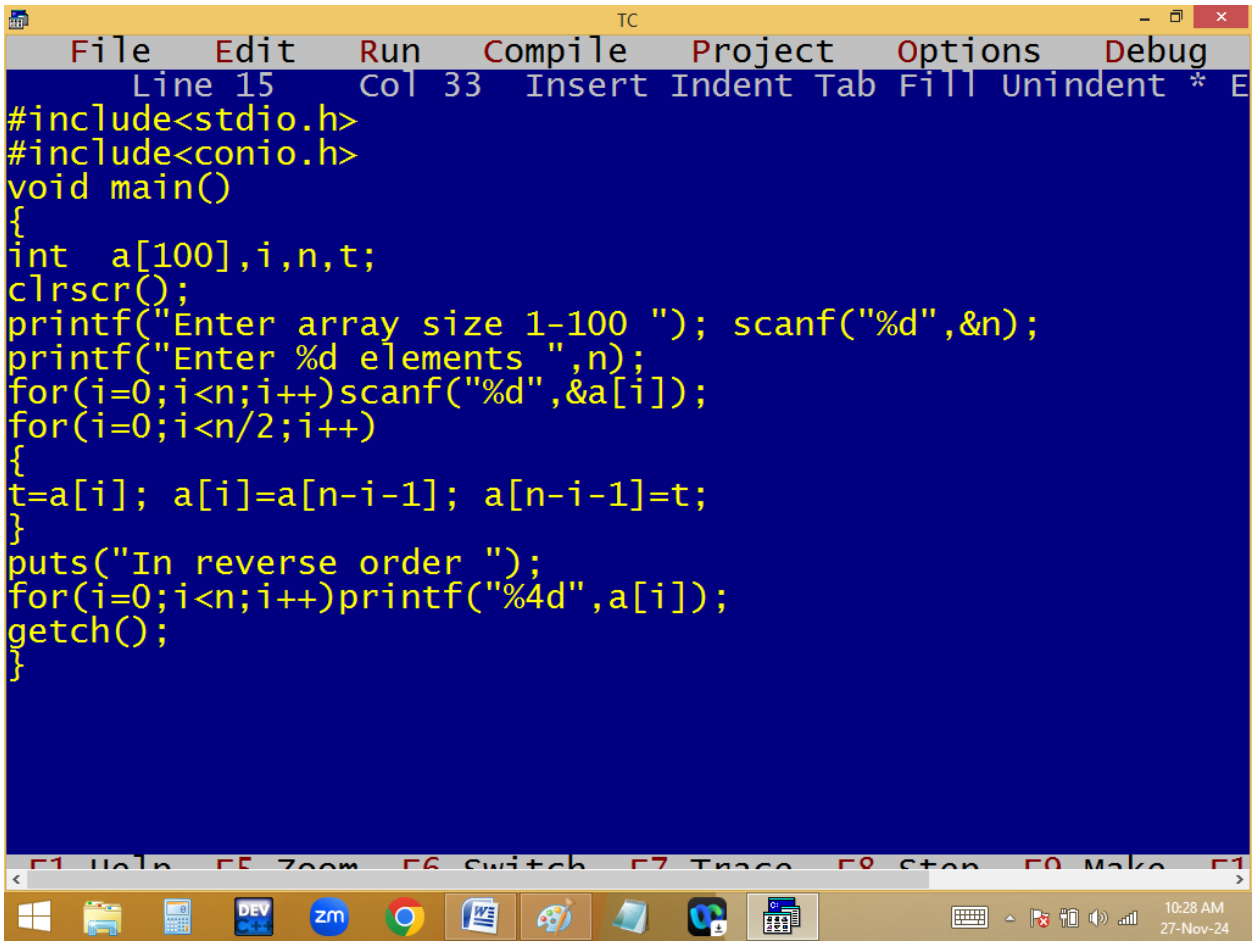


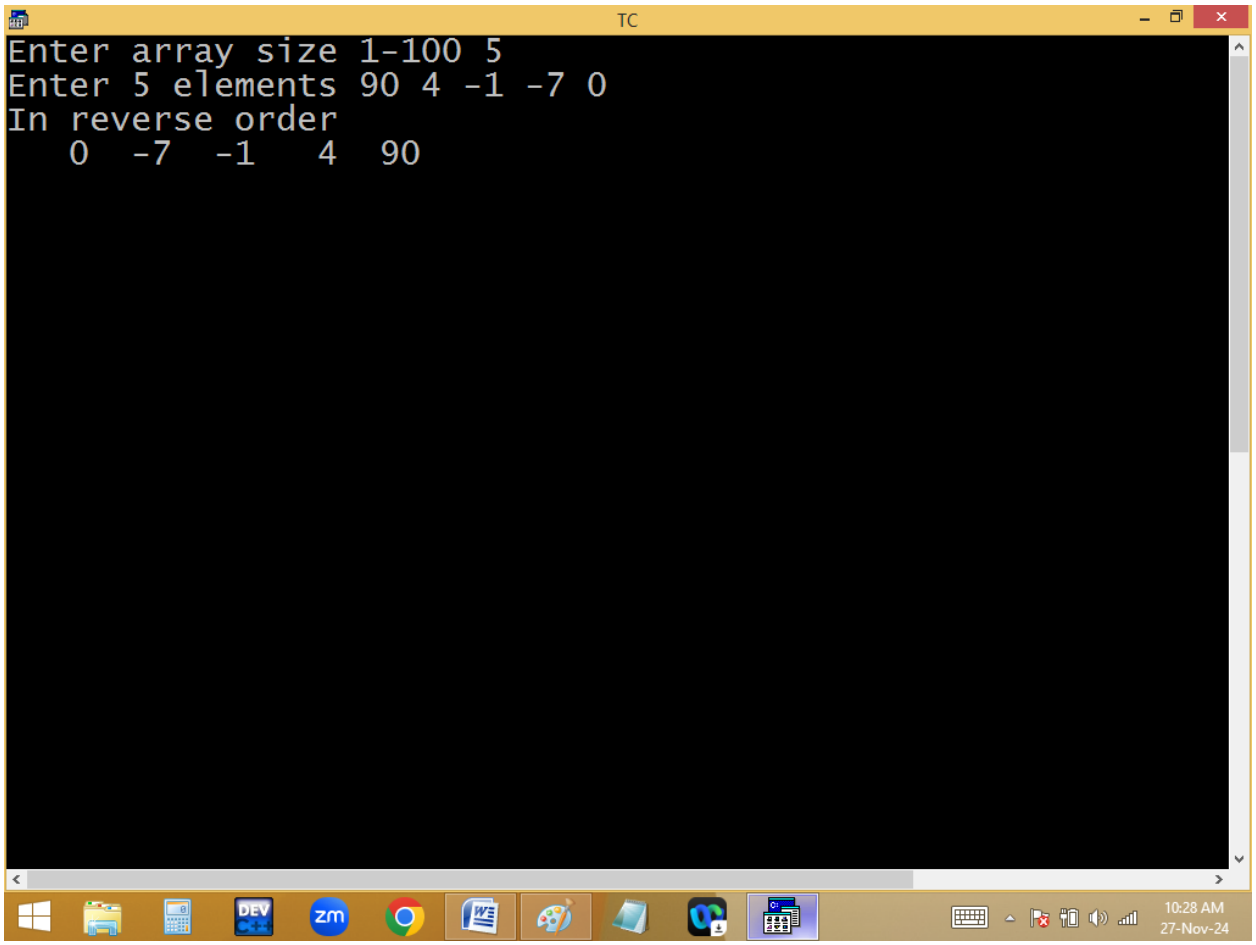

```
for(i=n-1;i>=0;i--)p(a[i]);
```

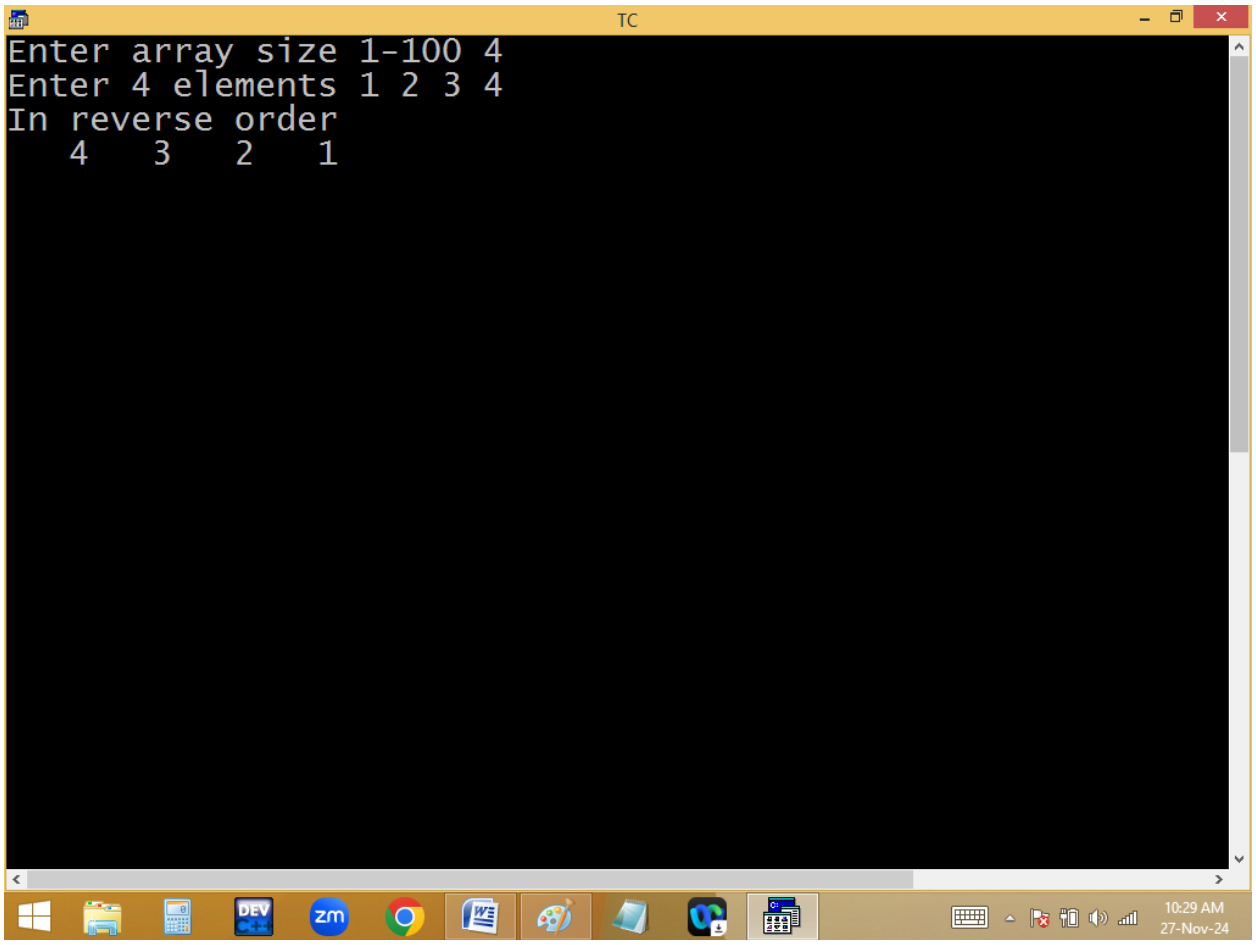
90	4	-1	-7	0
0	1	2	3	4

n
5

Permanent arrangement:

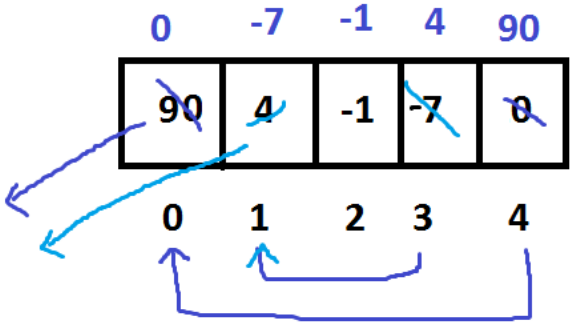

TC
File Edit Run Compile Project Options Debug
Line 15 Col 33 Insert Indent Tab Fill Unindent * E
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],i,n,t;
clrscr();
printf("Enter array size 1-100 "); scanf("%d",&n);
printf("Enter %d elements ",n);
for(i=0;i<n;i++)scanf("%d",&a[i]);
for(i=0;i<n/2;i++)
{
t=a[i]; a[i]=a[n-i-1]; a[n-i-1]=t;
}
puts("In reverse order ");
for(i=0;i<n;i++)printf("%4d",a[i]);
getch();
}
10:28 AM
27-Nov-24


TC
Enter array size 1-100 5
Enter 5 elements 90 4 -1 -7 0
In reverse order
0 -7 -1 4 90
10:28 AM
27-Nov-24




```
for(i=0;i<5/2;i++)
{
int t=a[i];
a[i]=a[n-i-1];
a[n-i-1]=t;
}
```

t
90
4



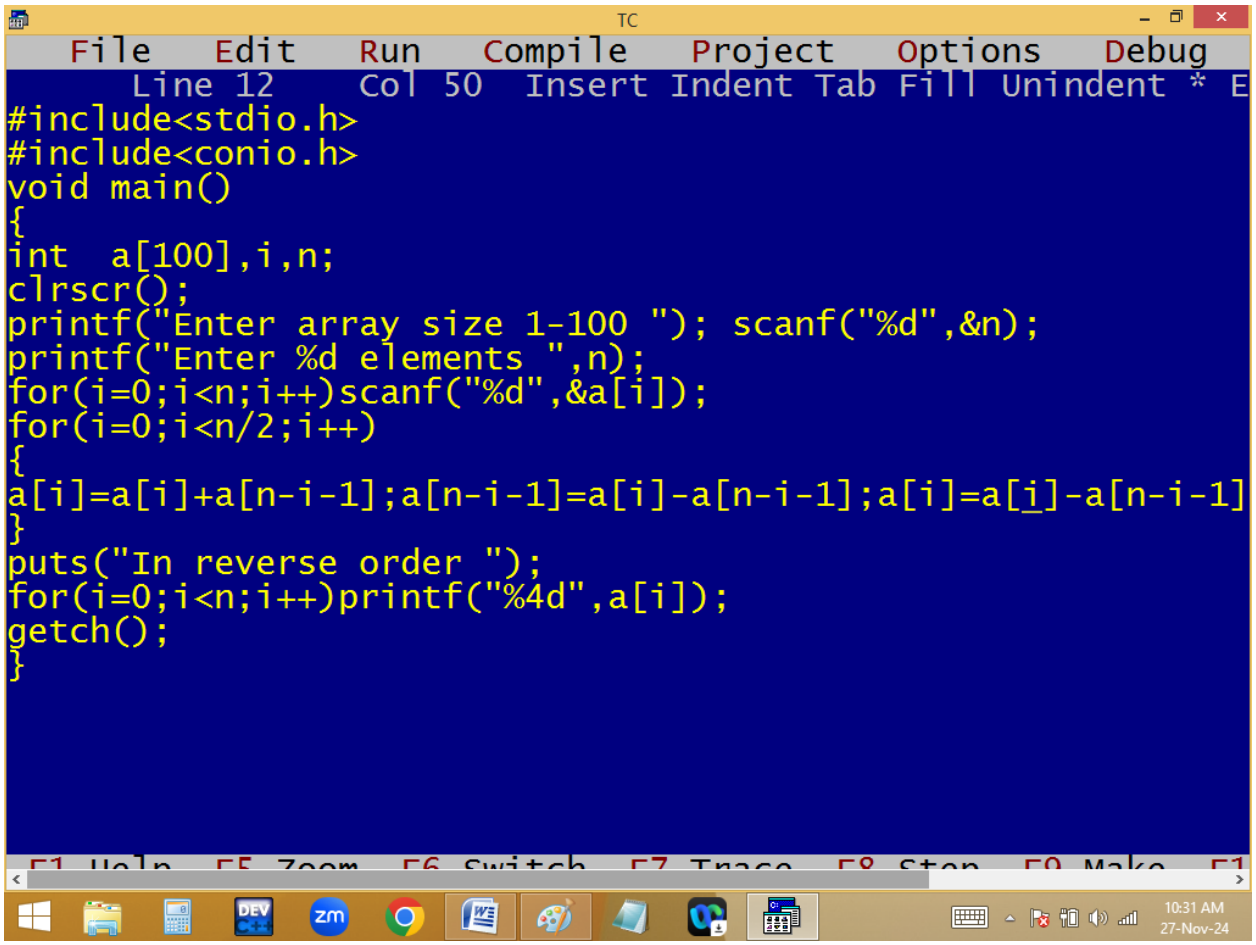
n
5

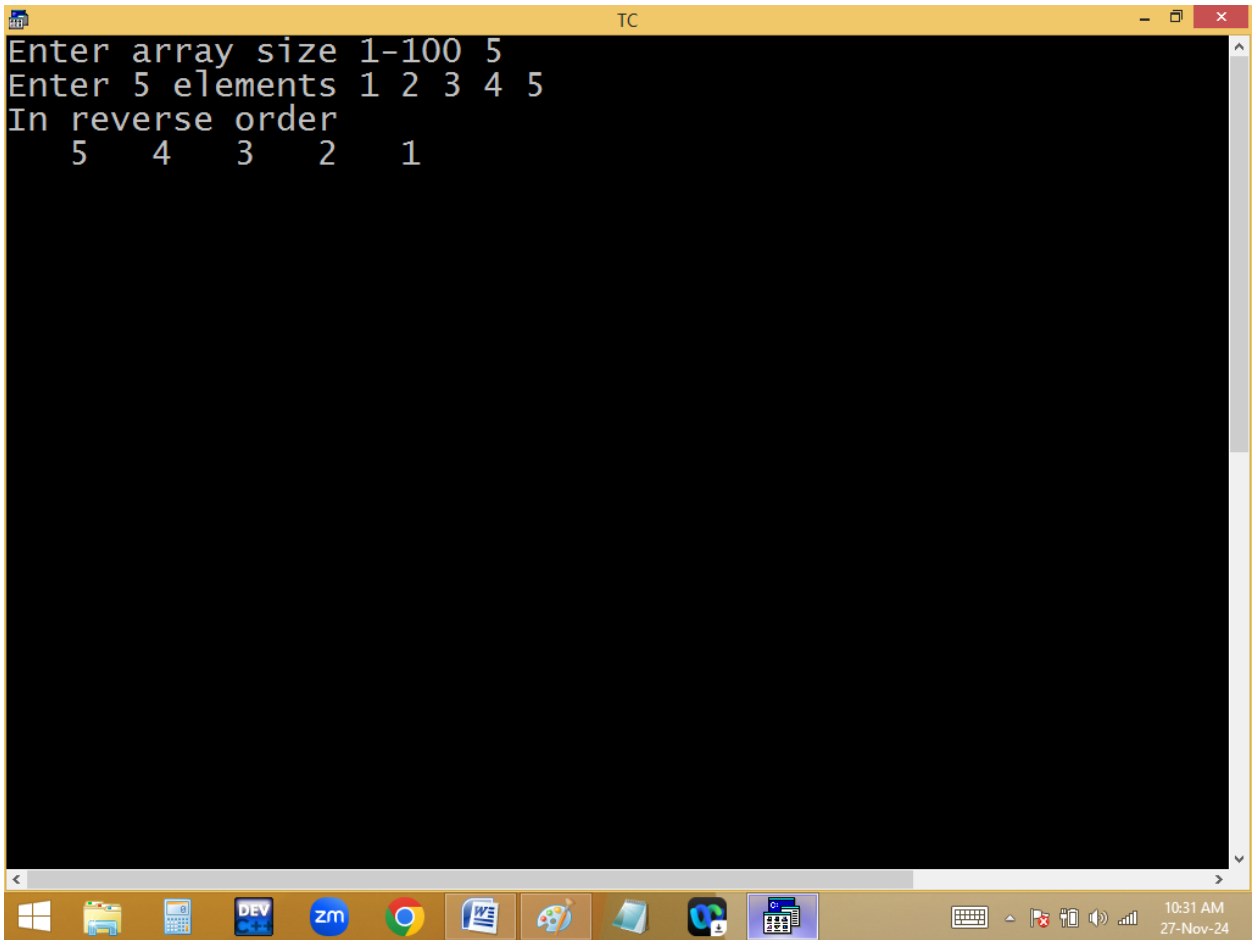
i → t → n-i-1
0 → 90 → 5-0-1=4

1
2

4 → 5-1-1=3

Without using 3rd variable:


TC
File Edit Run Compile Project Options Debug
Line 12 Col 50 Insert Indent Tab Fill Unindent * E
#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]
}
puts("In reverse order ");
for(i=0;i<n;i++)printf("%4d",a[i]);
getch();
}
10:31 AM
27-Nov-24



a[0]=a[0]+a[4]==>90+0=90

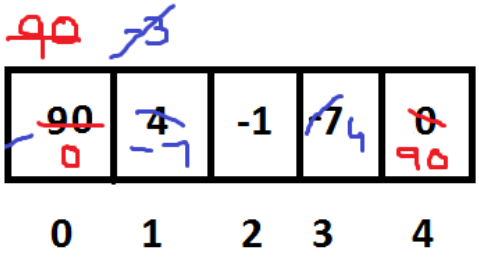
a[4]=a[0]-a[4]==>90-0=90

a[0]=a[0]-a[4]==>90-90=0

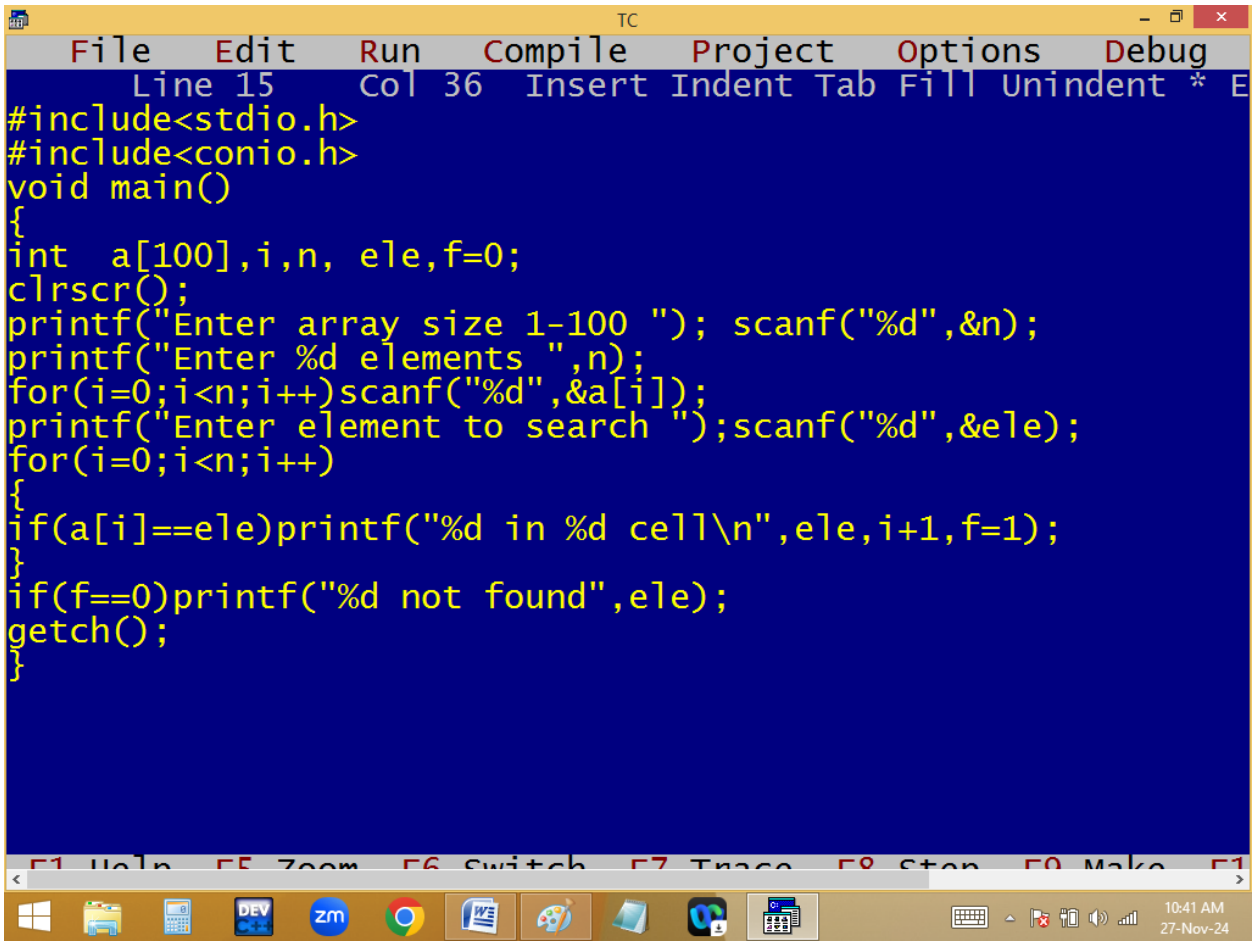
a[1]=a[1]+a[3]==>4+-7=-3

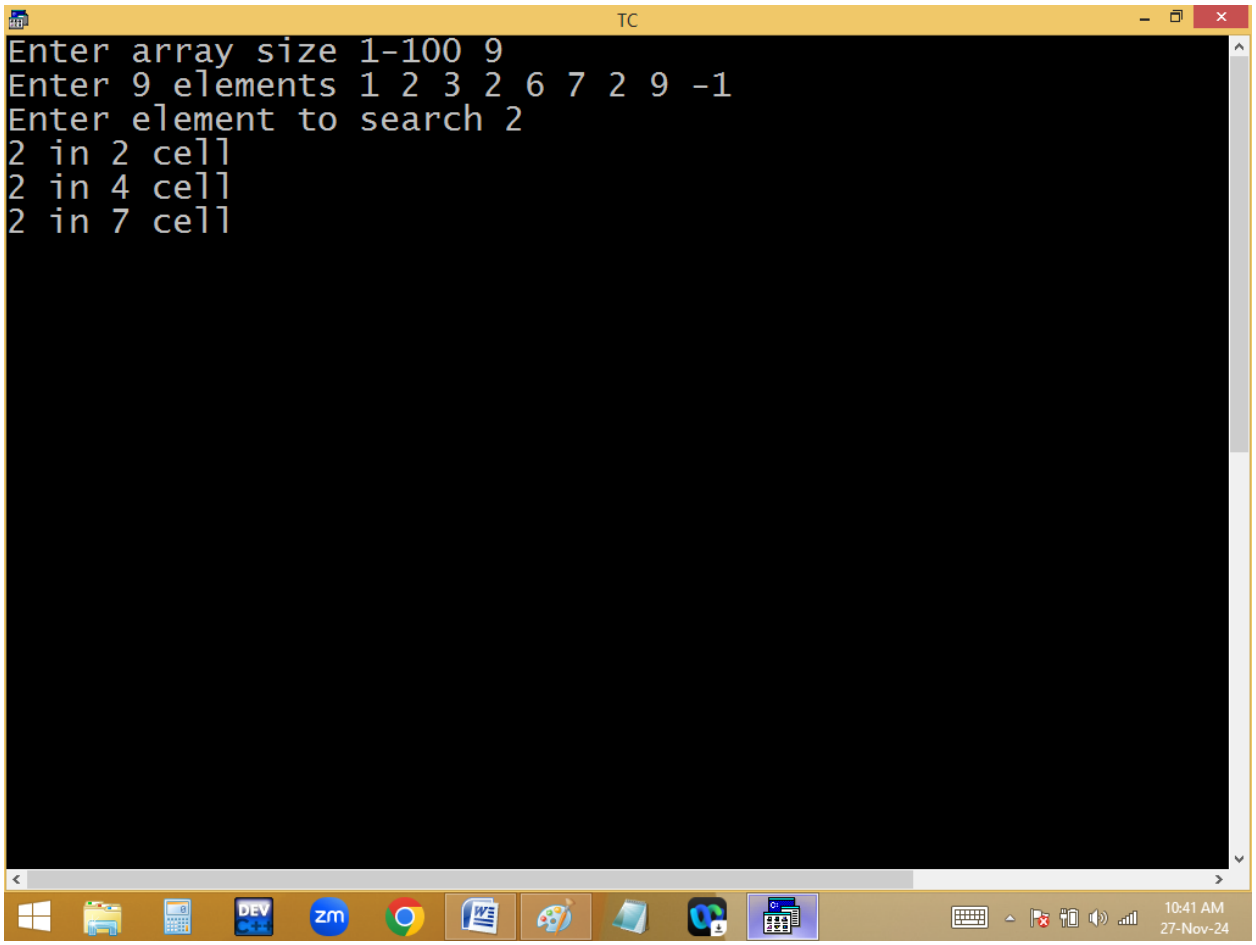
a[3]=a[1]-a[3]==> -3--7=4

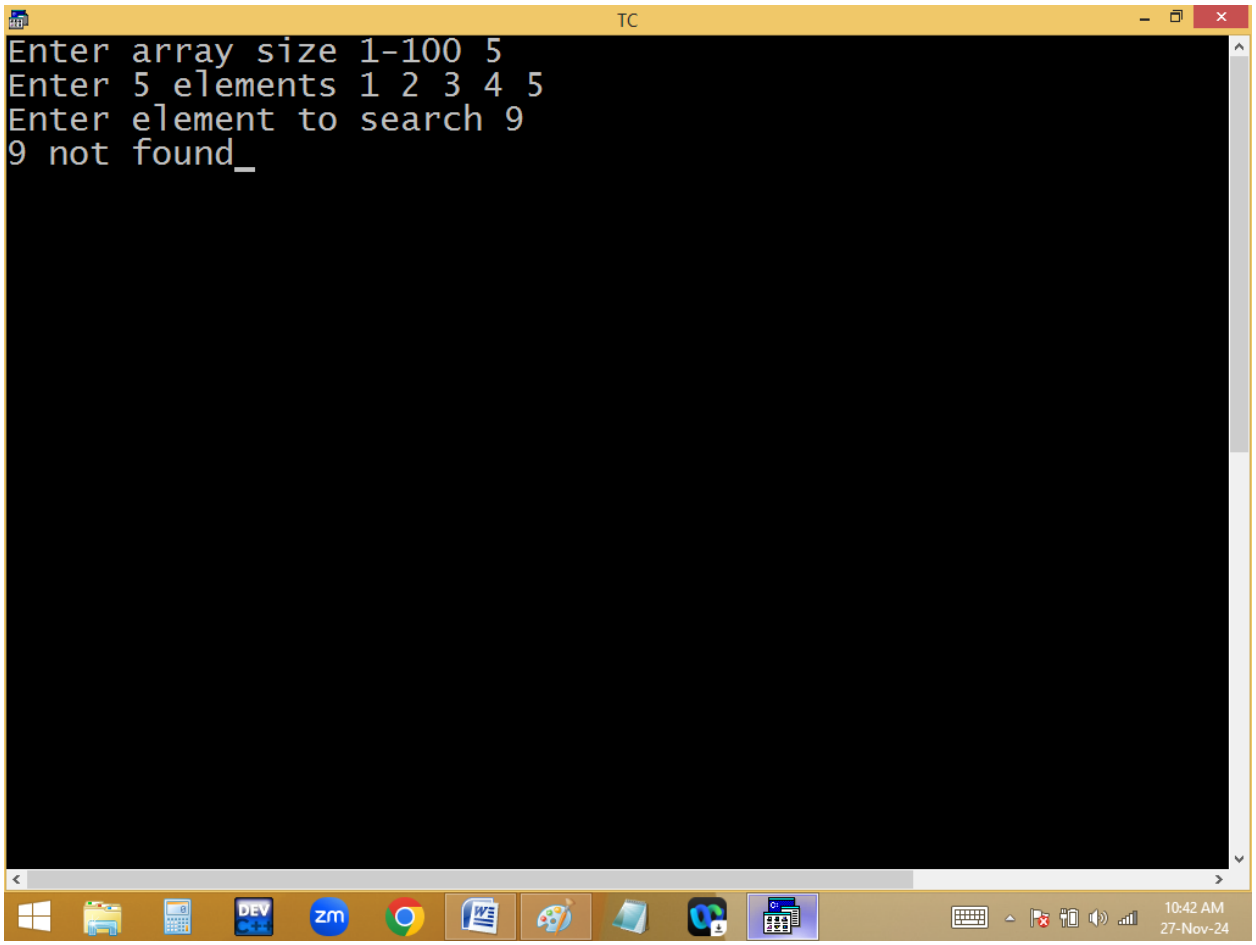
a[1]=a[1]-a[3]==>-3-4=-7



Linear search:


TC
File Edit Run Compile Project Options Debug
Line 15 Col 36 Insert Indent Tab Fill Unindent * E
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],i,n, 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();
}
10:41 AM
27-Nov-24


TC
Enter array size 1-100 9
Enter 9 elements 1 2 3 2 6 7 2 9 -1
Enter element to search 2
2 in 2 cell
2 in 4 cell
2 in 7 cell
10:41 AM
27-Nov-24




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

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

90	4	-1	-7	0
0	1	2	3	4

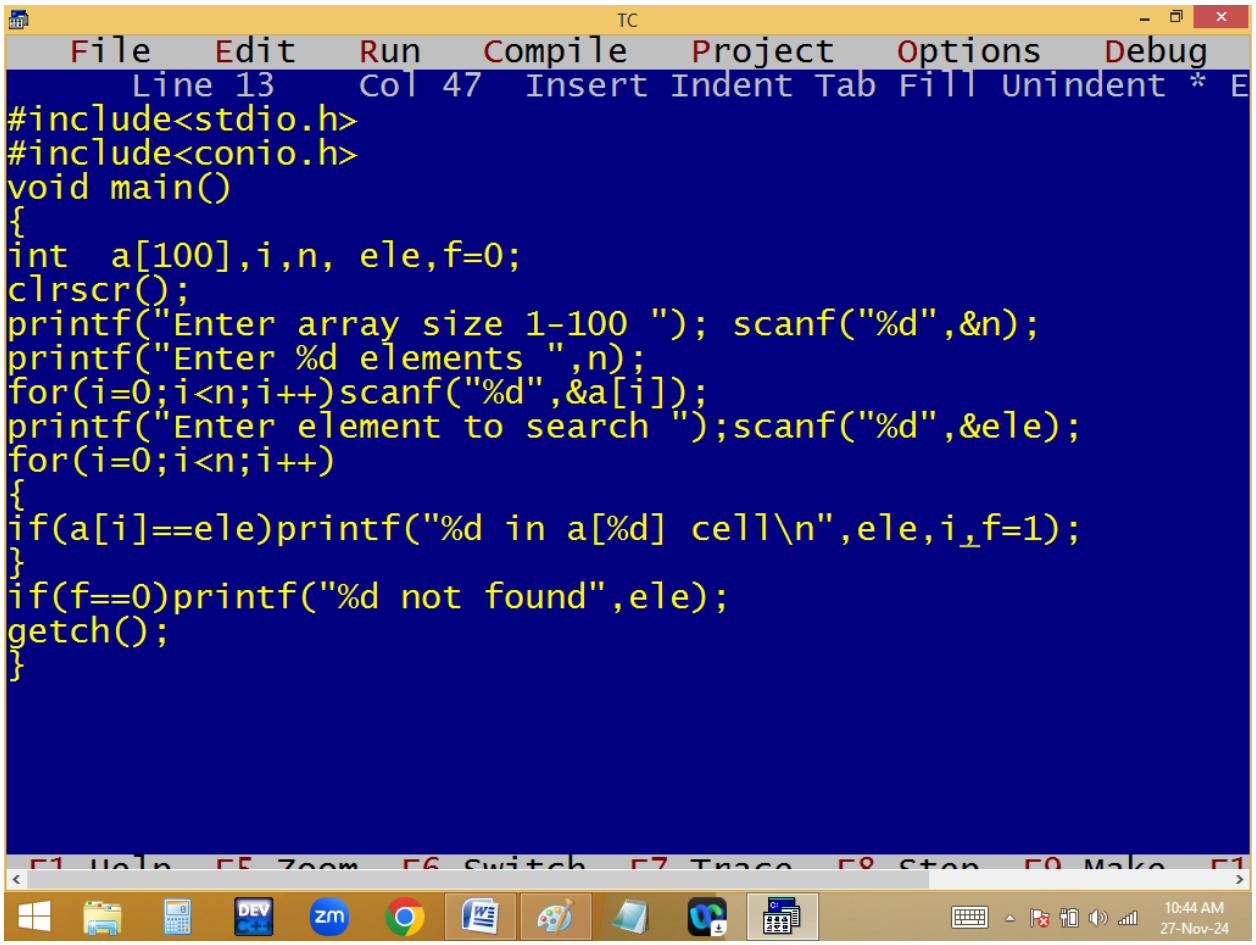
n = 5

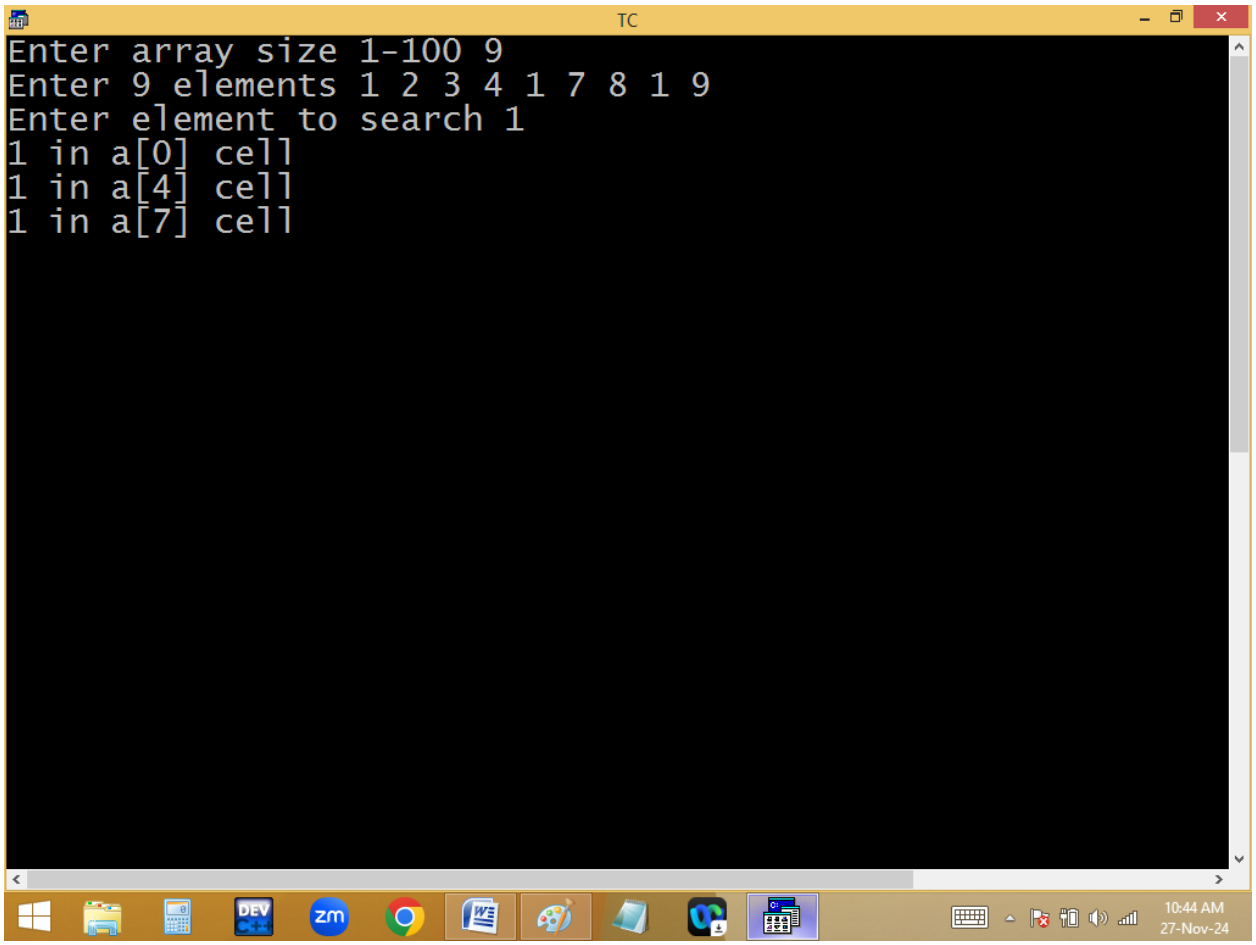
i = 0, 1, 2+1

ele = -1

f = 0

Printing Index no:


TC
File Edit Run Compile Project Options Debug
Line 13 Col 47 Insert Indent Tab Fill Unindent * E
#include<stdio.h>
#include<conio.h>
void main()
{
int a[100],i,n, 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();
}
10:44 AM
27-Nov-24


TC
Enter array size 1-100 9
Enter 9 elements 1 2 3 4 1 7 8 1 9
Enter element to search 1
1 in a[0] cell
1 in a[4] cell
1 in a[7] cell
10:44 AM
27-Nov-24