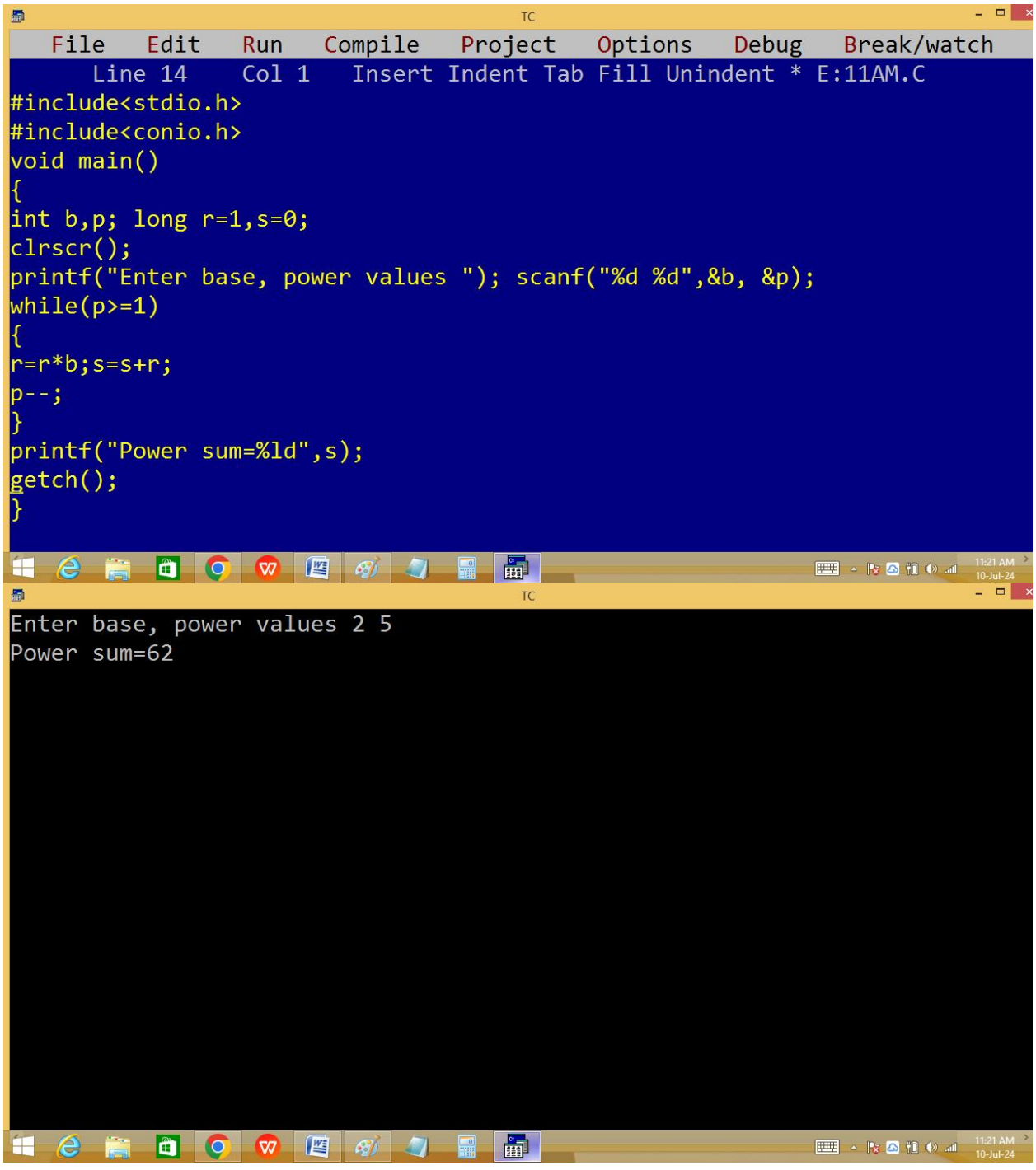
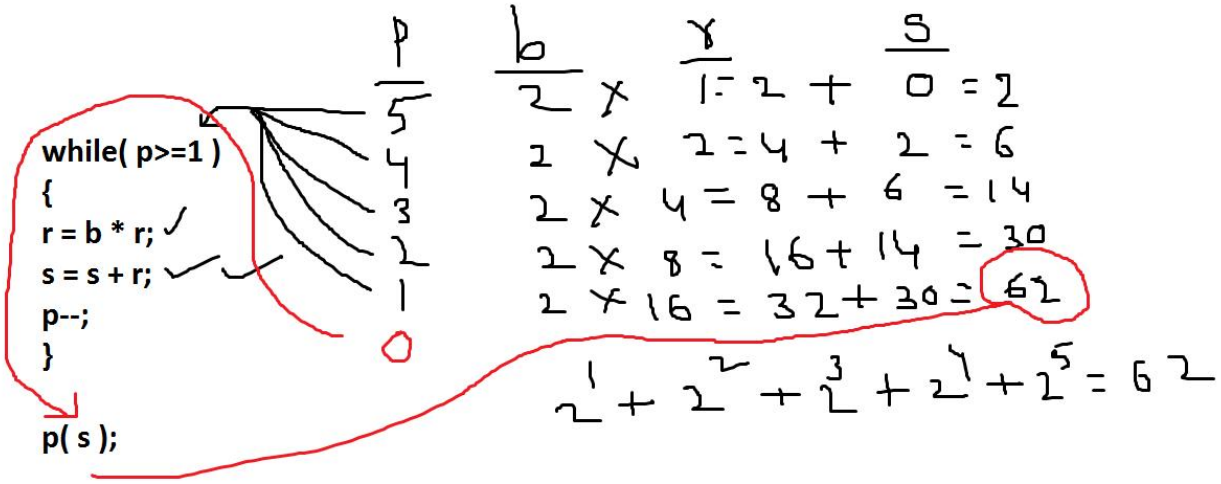
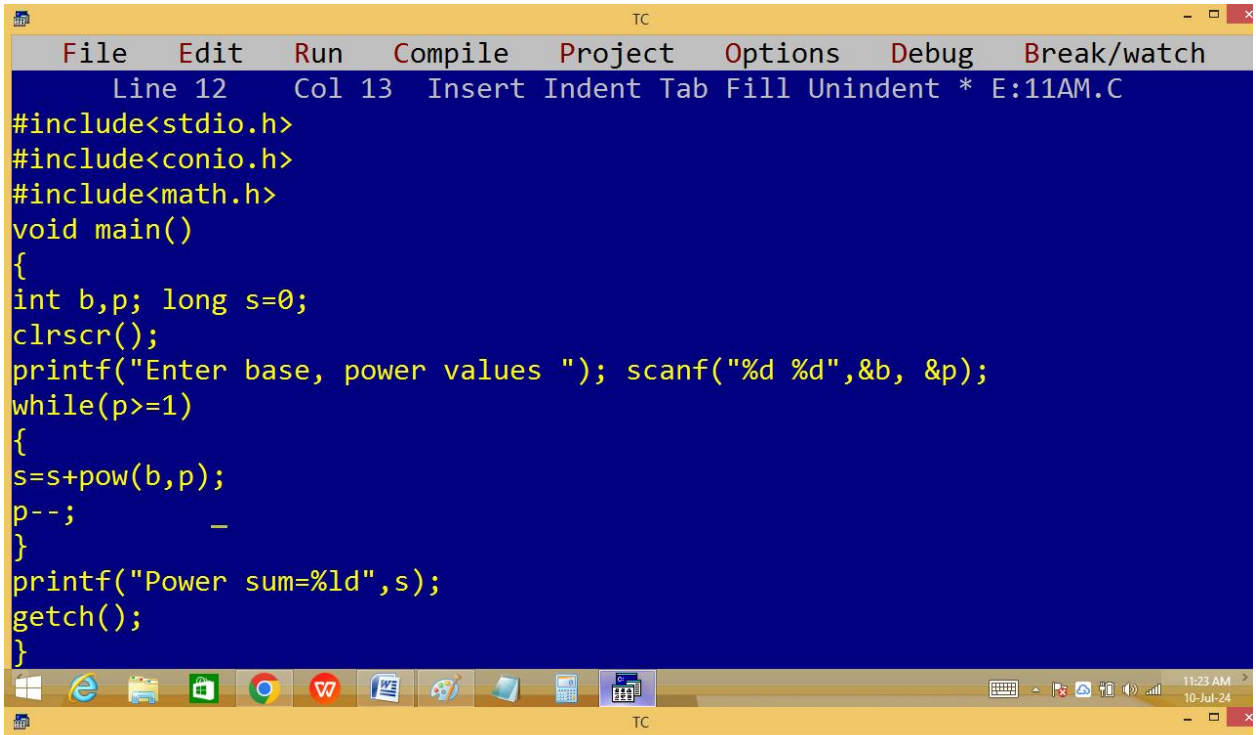
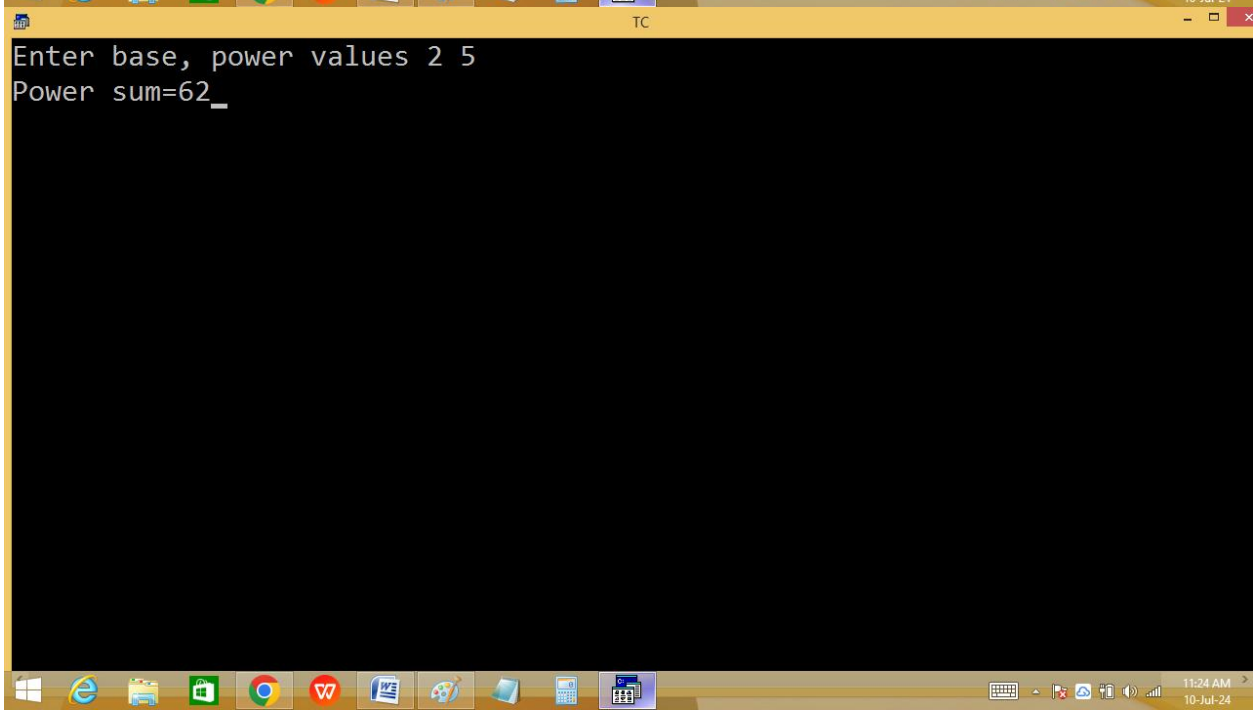
# Finding power sum:

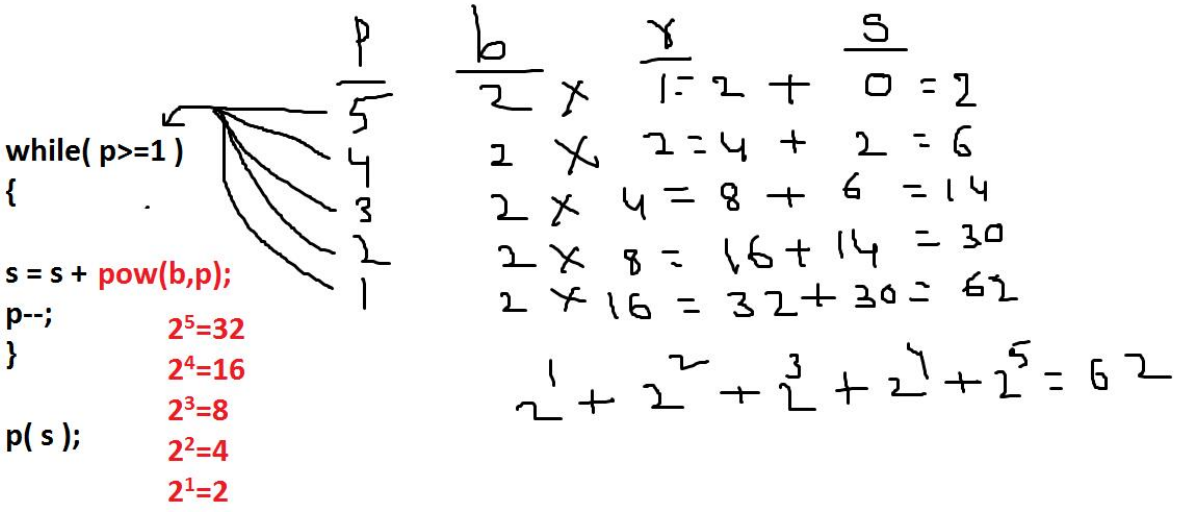



while( p>=1 )
{
r = b * r;
s = s + r;
p--;
}
p( s );
p
5
4
3
2
1
0
b
2
2
2
2
2
r
1 = 2 + 0 = 1
2 x 2 = 4 + 2 = 6
2 x 4 = 8 + 6 = 14
2 x 8 = 16 + 14 = 30
2 x 16 = 32 + 30 = 62
s
$2^1 + 2^2 + 2^3 + 2^4 + 2^5 = 62$

**using pow():**

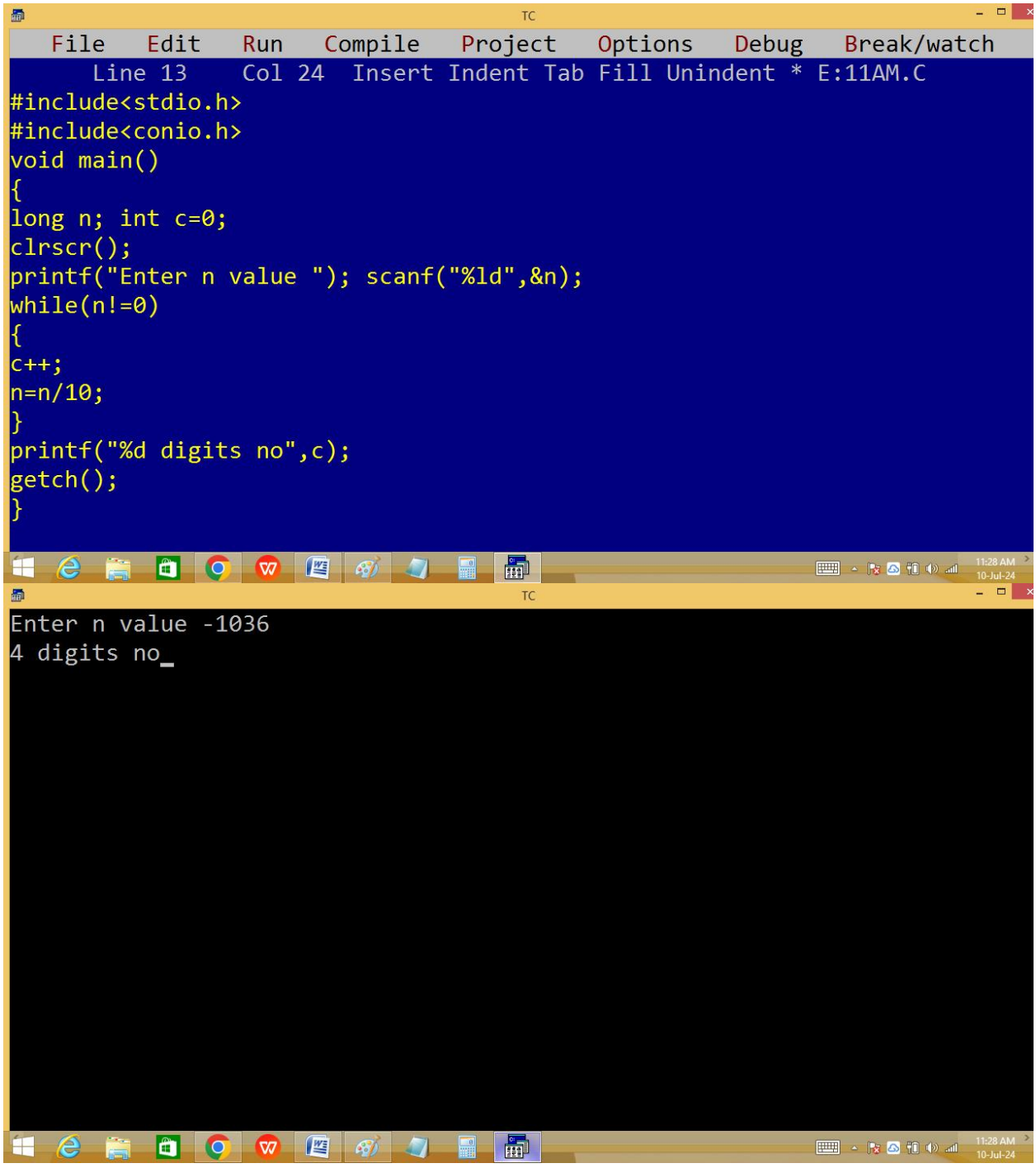

TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 13 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
#include<math.h>
void main()
{
int b,p; long s=0;
clrscr();
printf("Enter base, power values "); scanf("%d %d",&b, &p);
while(p>=1)
{
s=s+pow(b,p);
p--;
}
printf("Power sum=%ld",s);
getch();
}

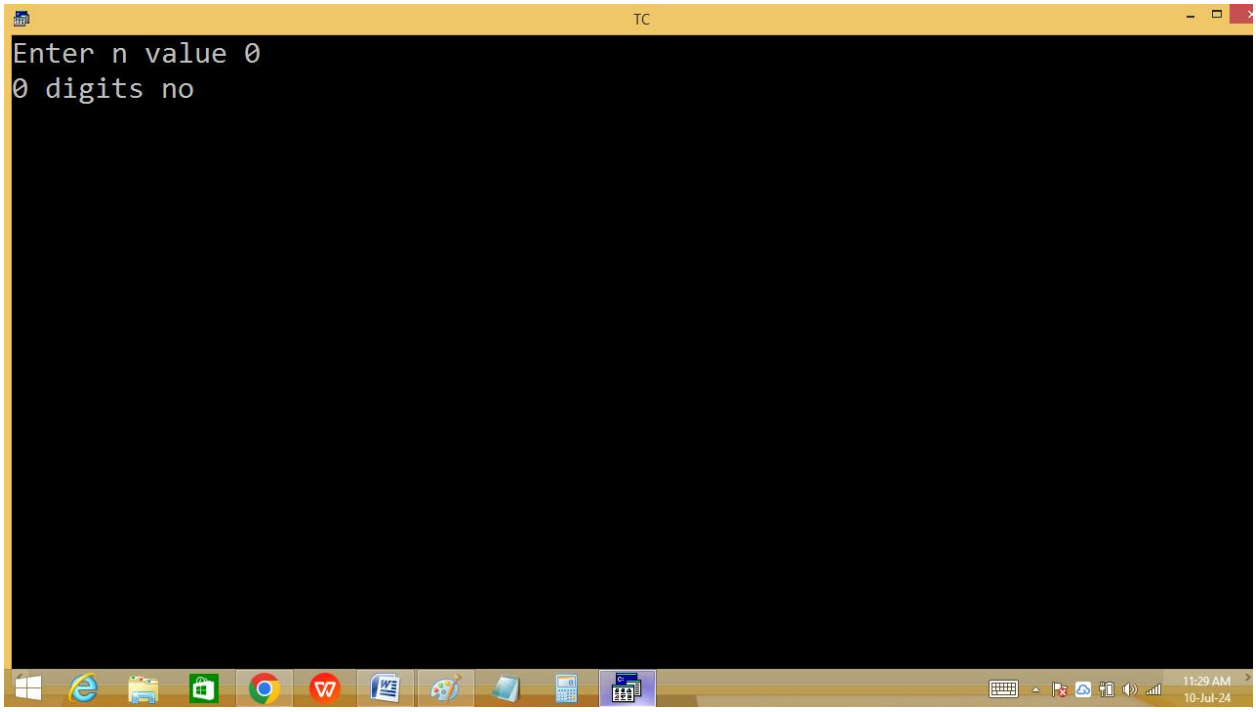

TC
Enter base, power values 2 5
Power sum=62

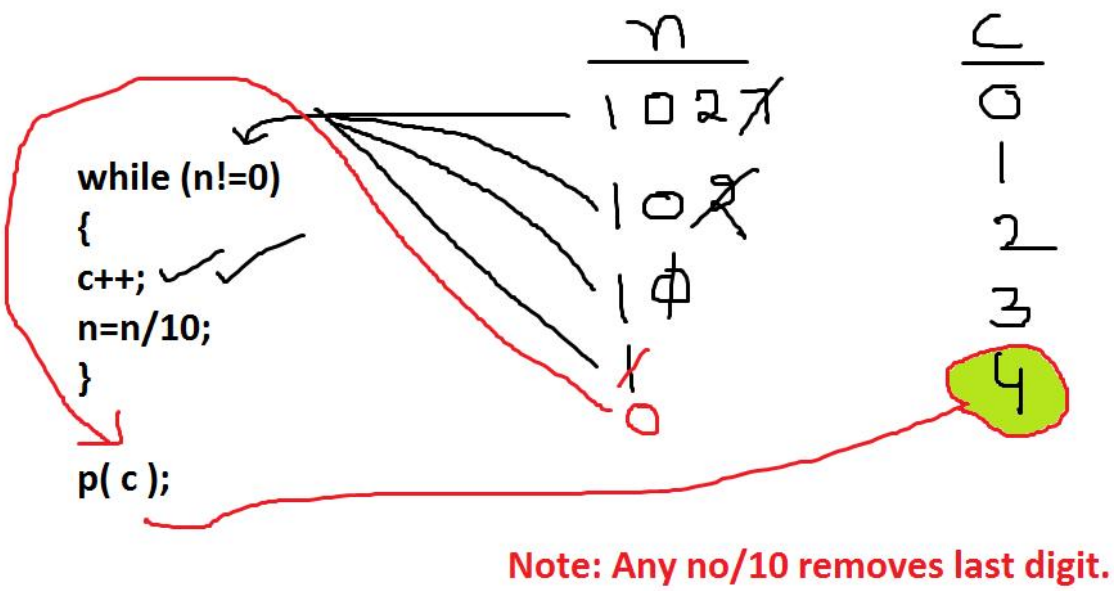



## Finding of digits in given no.

**Eg: 1027 → 4 digits**


TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 24 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int c=0;
clrscr();
printf("Enter n value "); scanf("%ld",&n);
while(n!=0)
{
c++;
n=n/10;
}
printf("%d digits no",c);
getch();
}
TC
Enter n value -1036
4 digits no




Note: Any no/10 removes last digit.

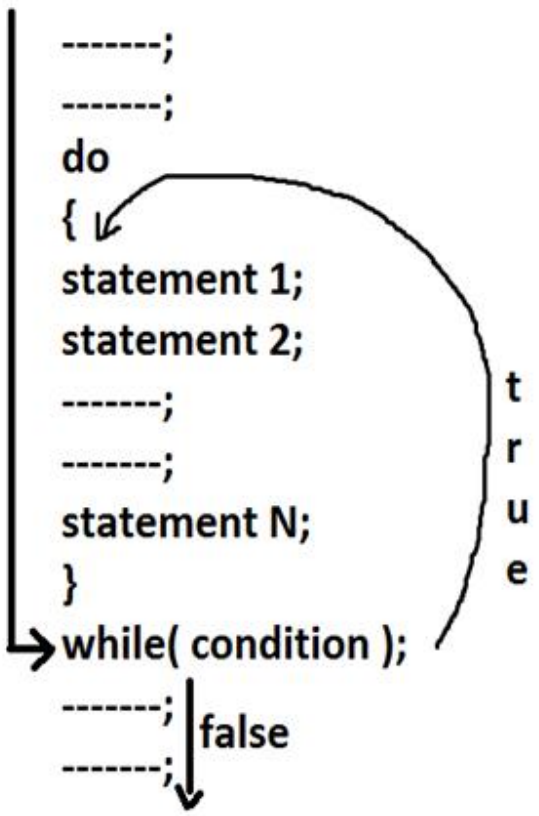
## do..while:

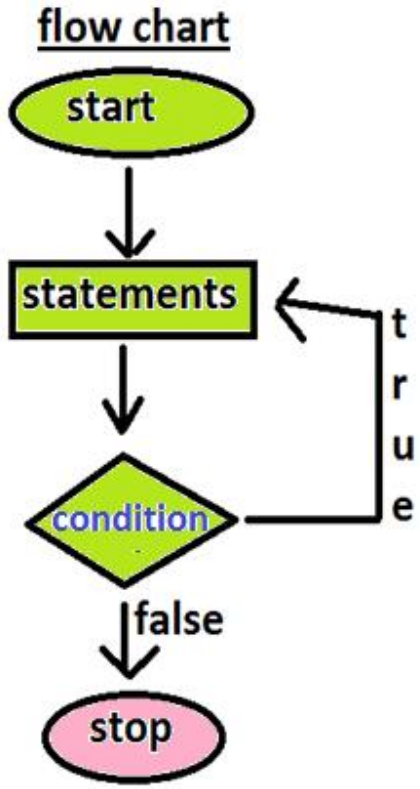
## do .. while:

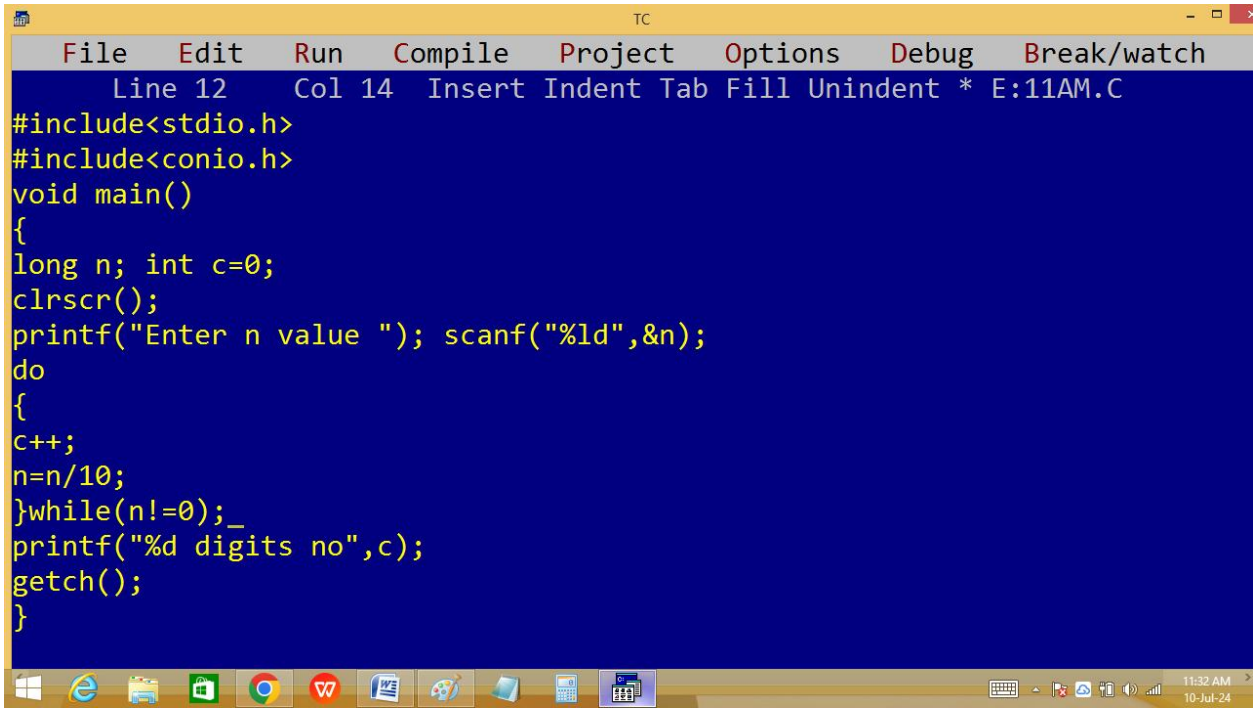
- **It is an exit control loop. i.e. in a do while the condition is tested at last.**
- **Here do , while are the keywords.**
- **It is also used to repeat a program several times based on a condition.**
- **In a do while, do block statements are executed first and later while condition is tested. If the while condition is true then once again the do block statements are repeated. Like this the process is continued until the while condition becomes false.**
- **In do while, the while should be end with semicolon ( ; ) .**
- **Regardless of while condition, the do statements are executed at least one time. Due to this sometimes we are**

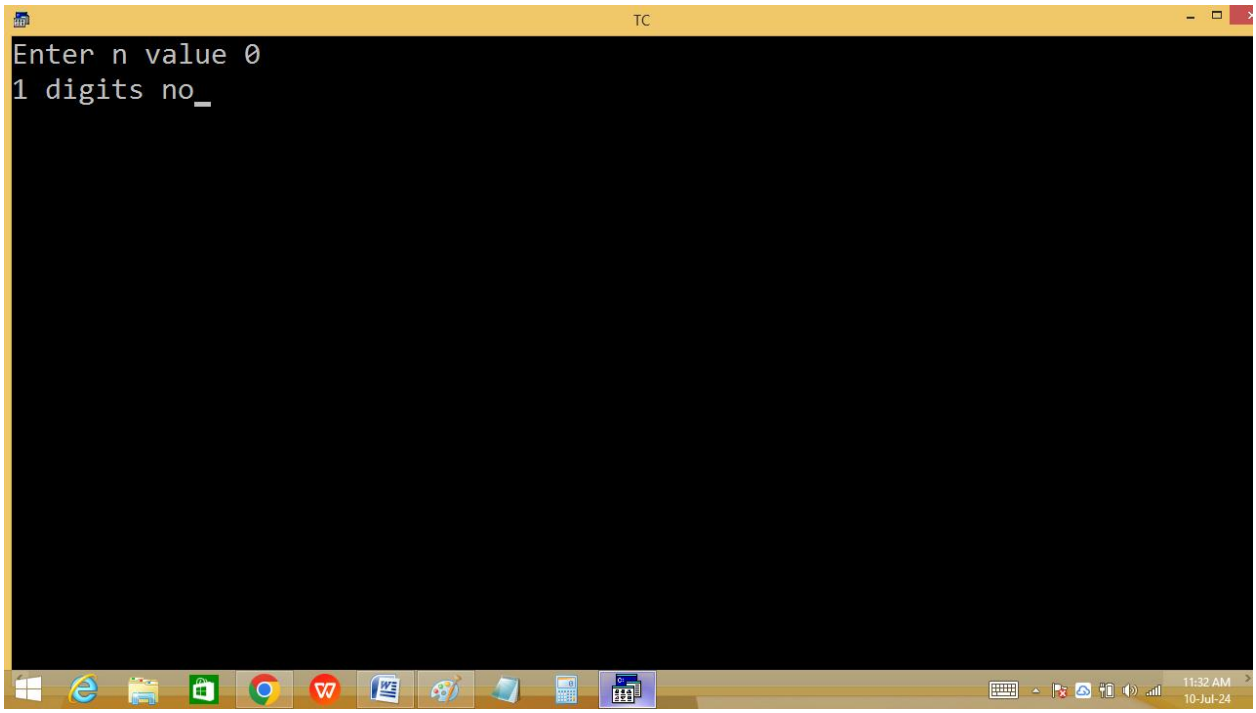
**getting unwanted results [ garbage values ].**

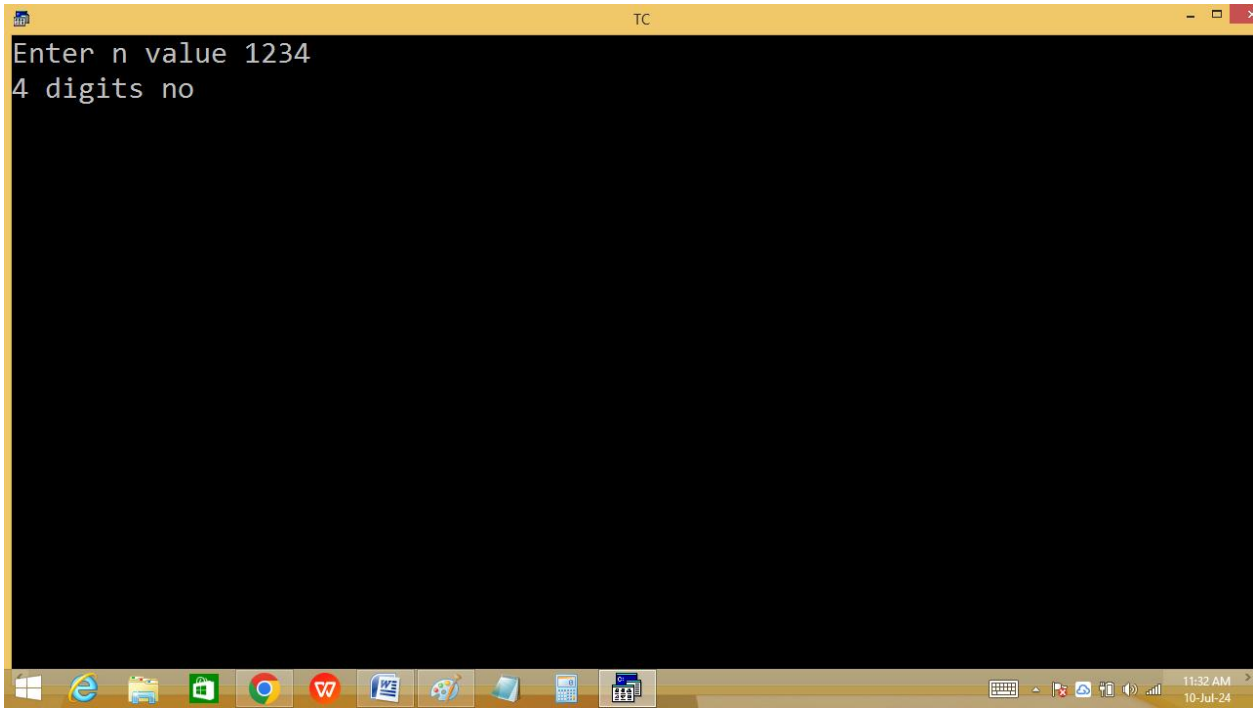
- **Use do while whenever it is compulsory because of in do while the program is controlled at the bottom / last.**

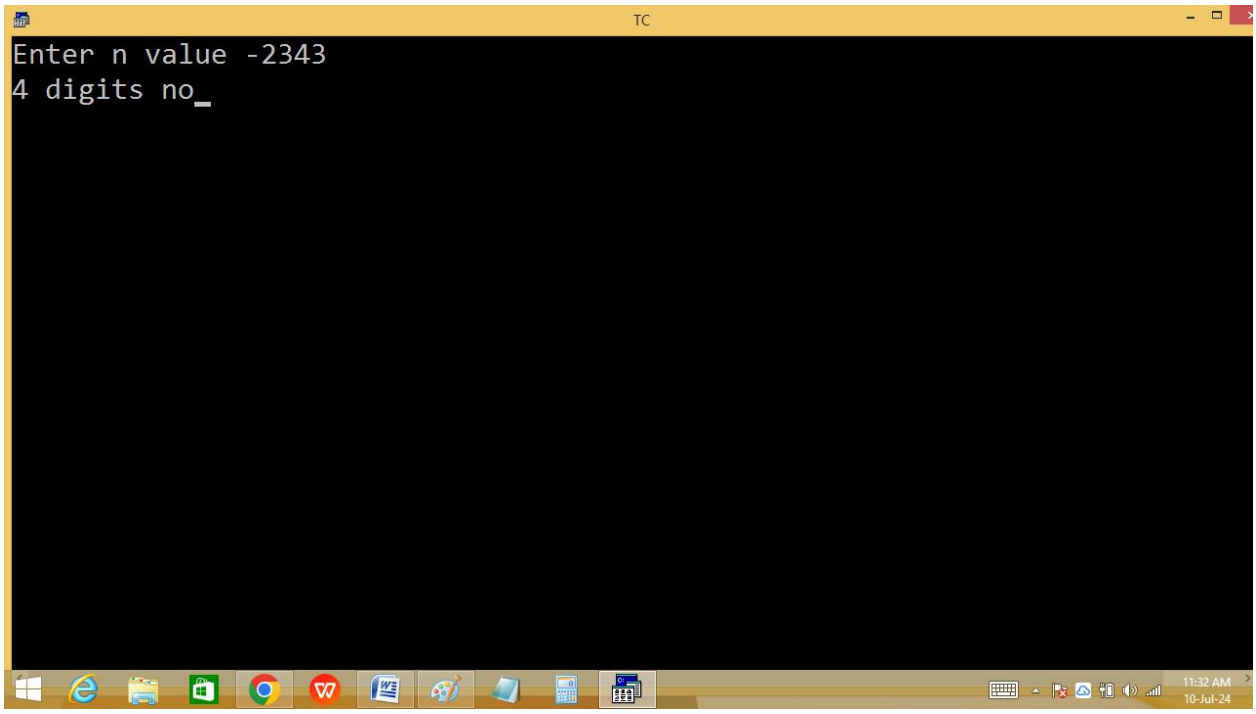


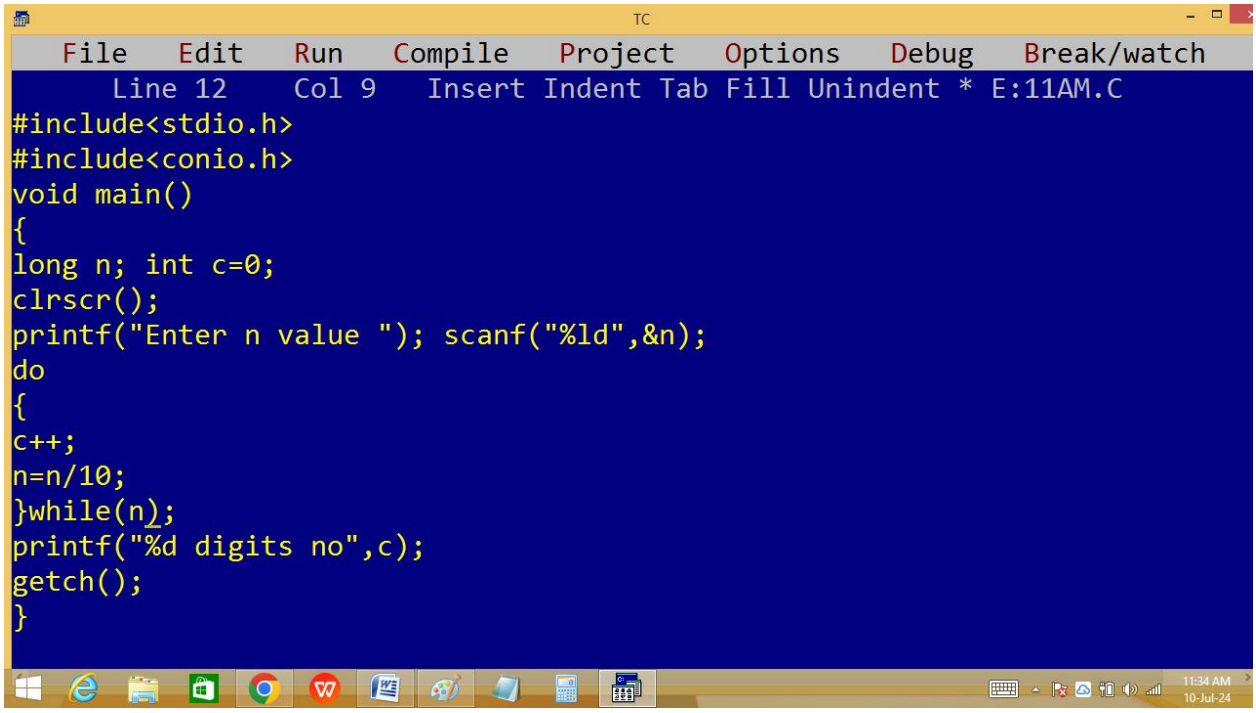



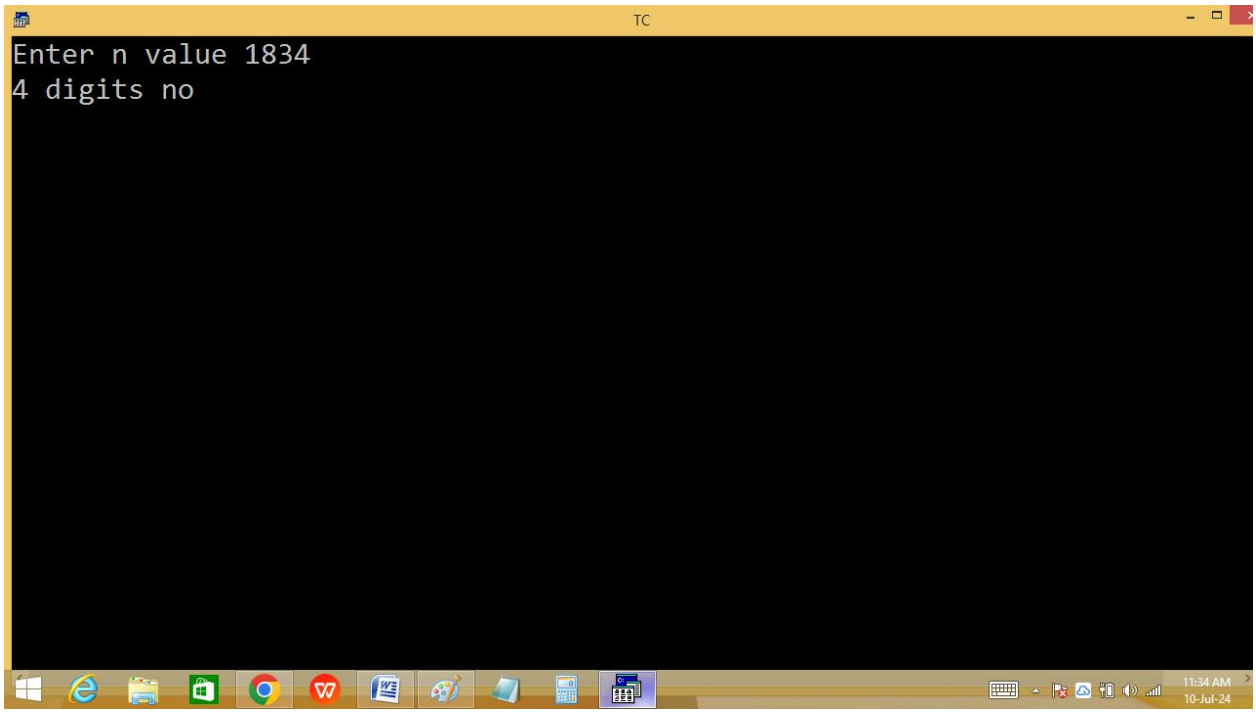

TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 14 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int c=0;
clrscr();
printf("Enter n value "); scanf("%ld",&n);
do
{
c++;
n=n/10;
}while(n!=0);
printf("%d digits no",c);
getch();
}

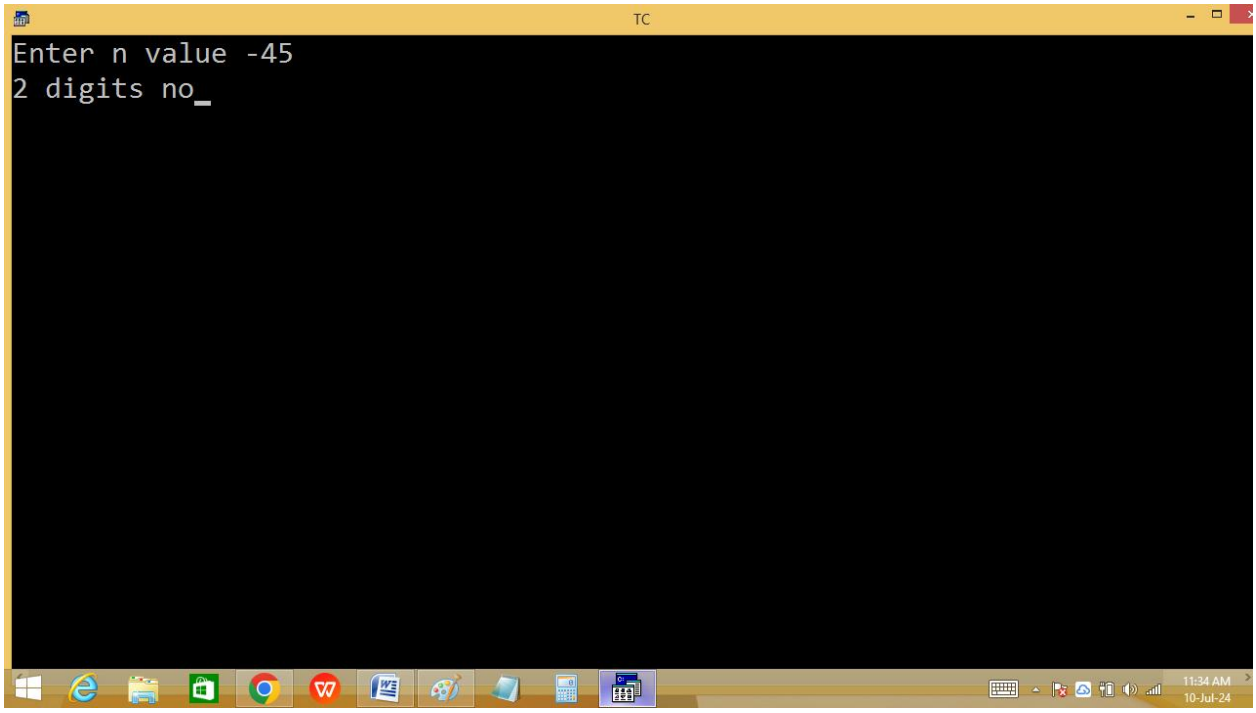

TC
Enter n value 0
1 digits no

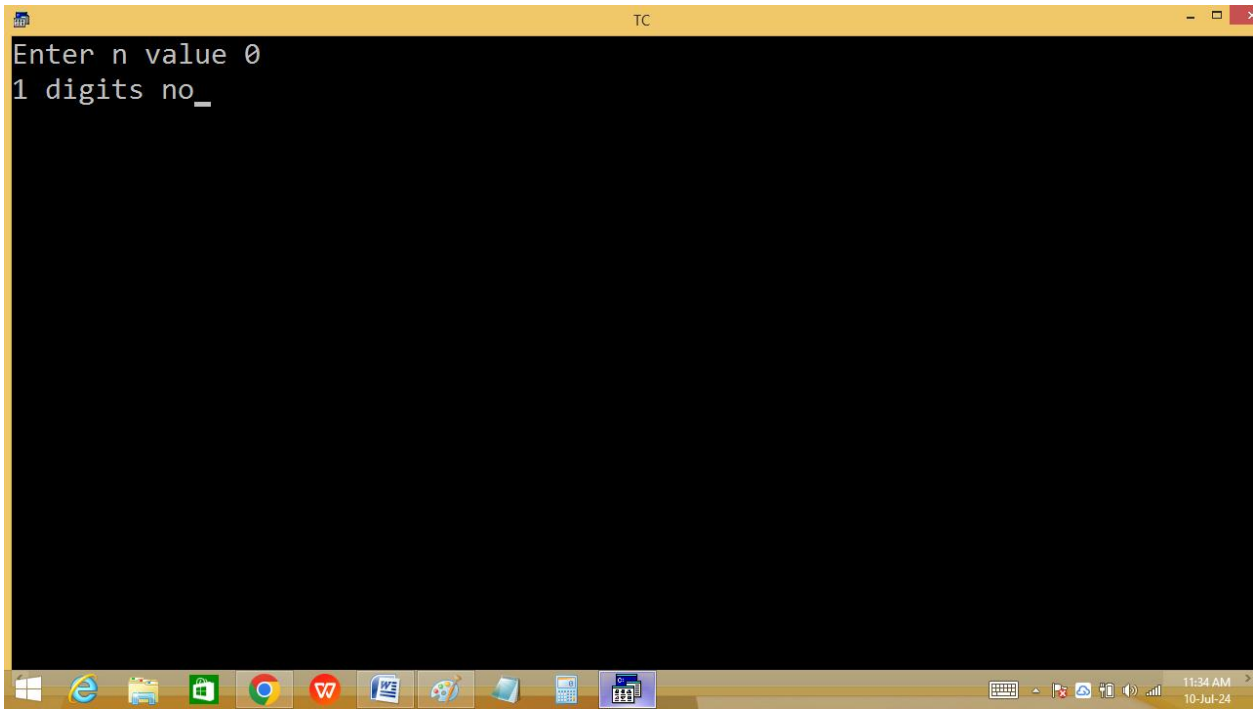

TC
Enter n value 1234
4 digits no
11:32 AM
10-Jul-24


TC
Enter n value -2343
4 digits no
11:32 AM
10-Jul-24

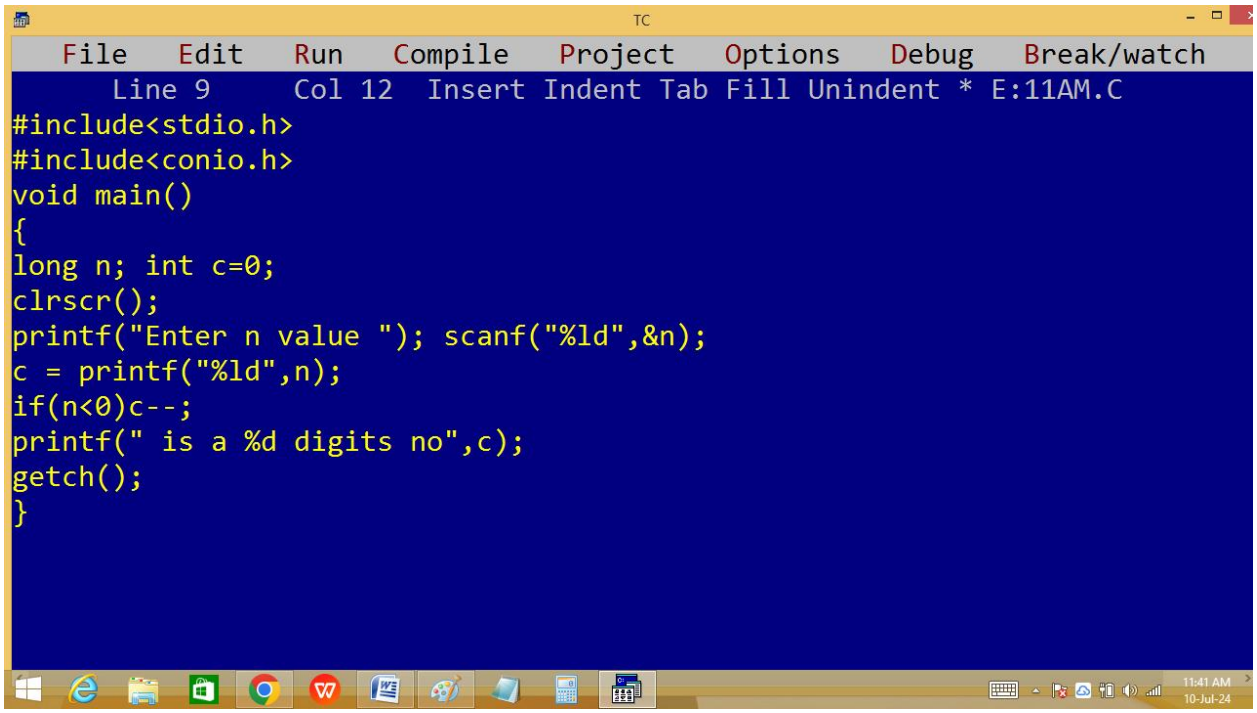

TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 9 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int c=0;
clrscr();
printf("Enter n value "); scanf("%ld",&n);
do
{
c++;
n=n/10;
}while(n);
printf("%d digits no",c);
getch();
}

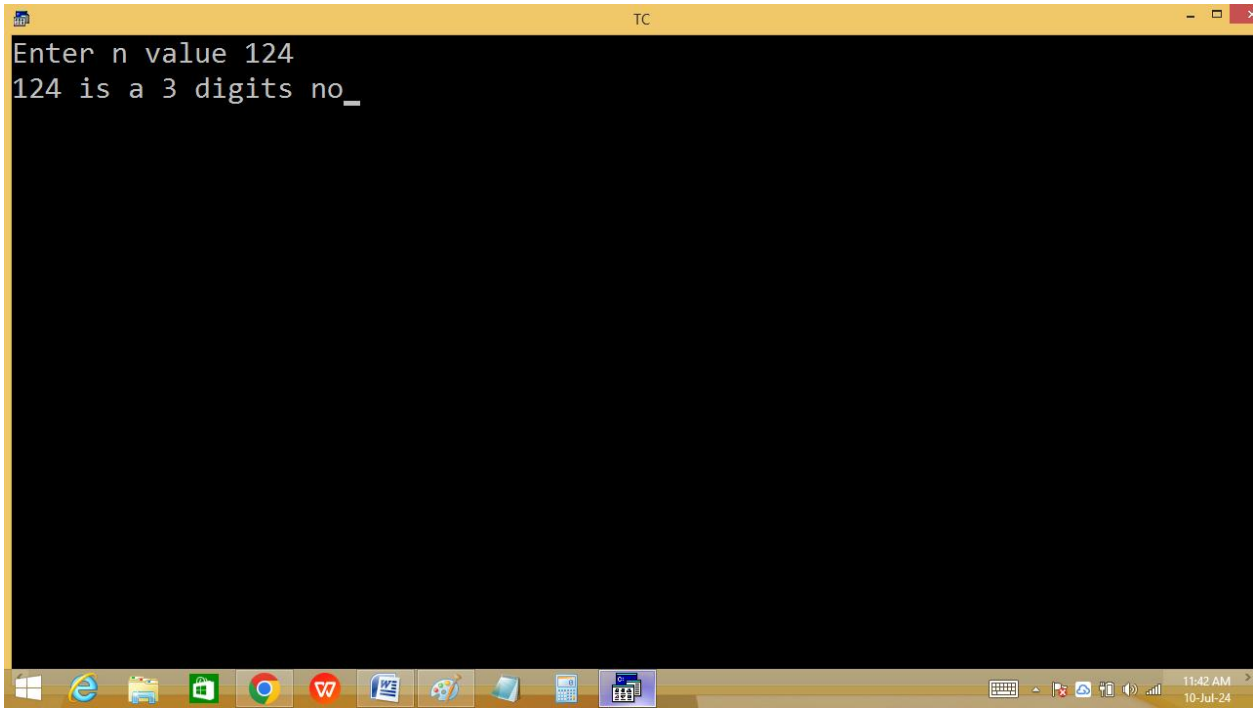

TC
Enter n value 1834
4 digits no

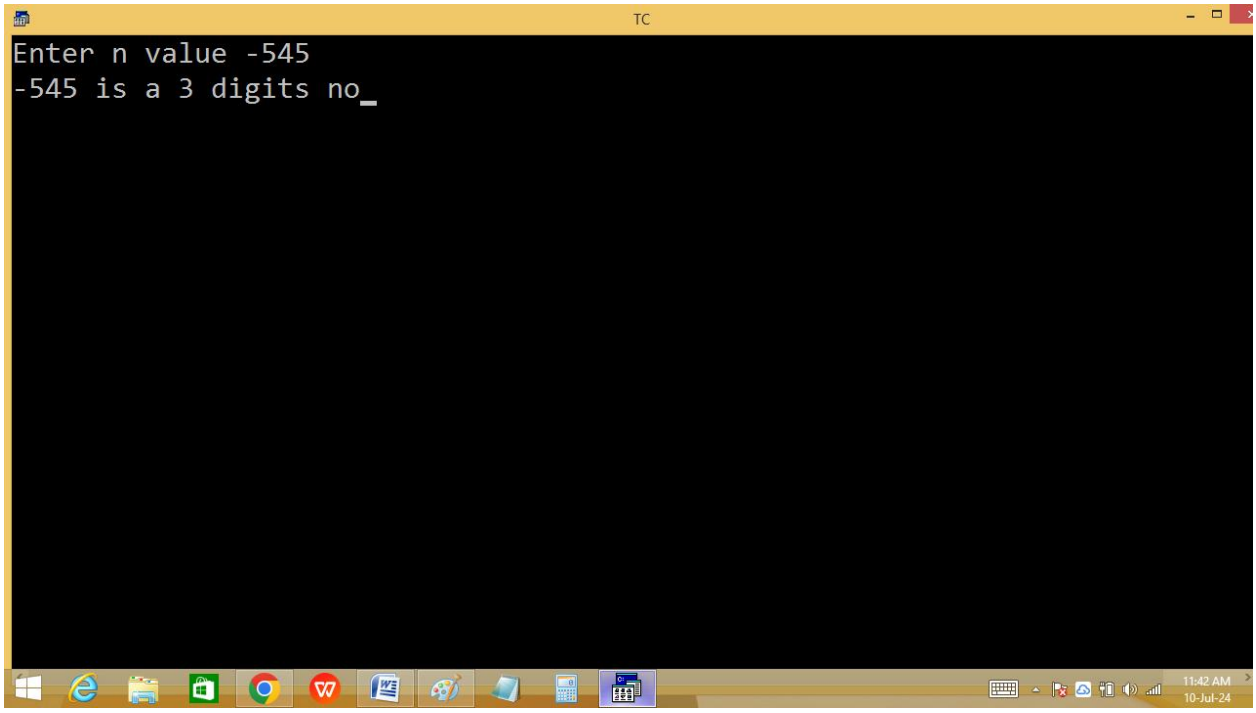

TC
Enter n value -45
2 digits no_

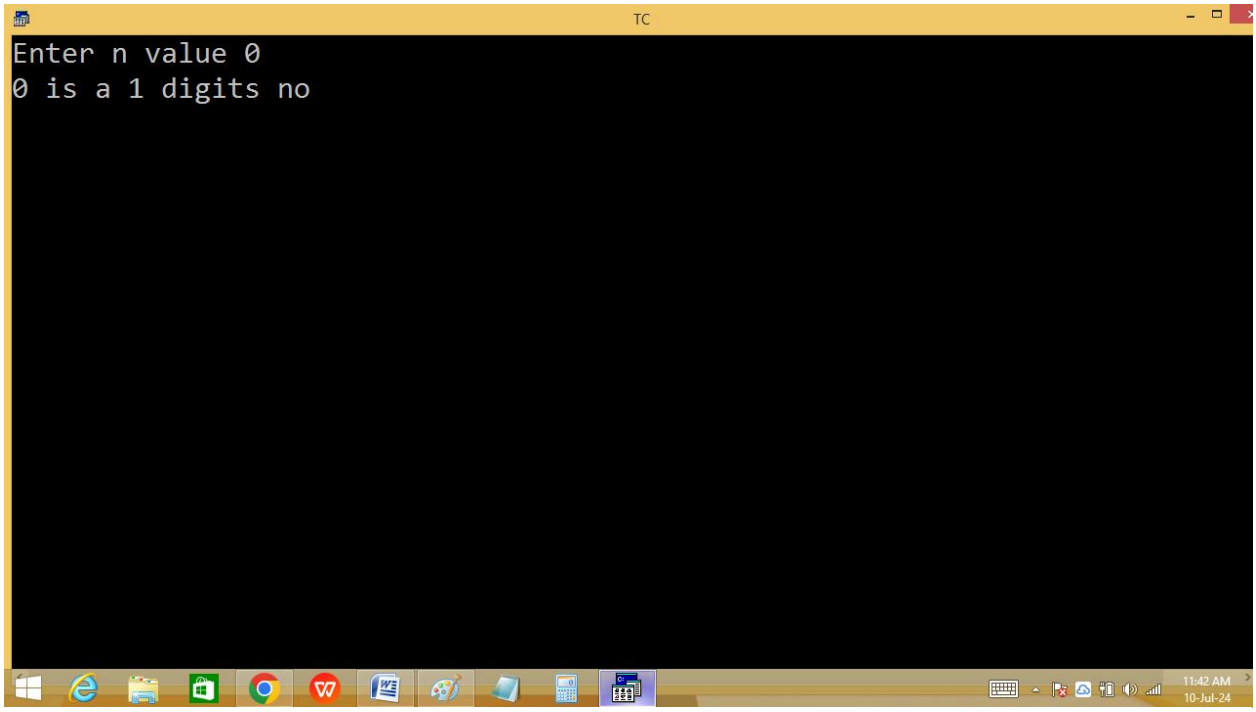

TC
Enter n value 0
1 digits no_

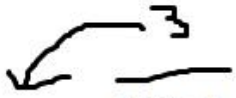
# Without using loop:/goto label:




TC
Enter n value -545
-545 is a 3 digits no
11:42 AM
10-Jul-24



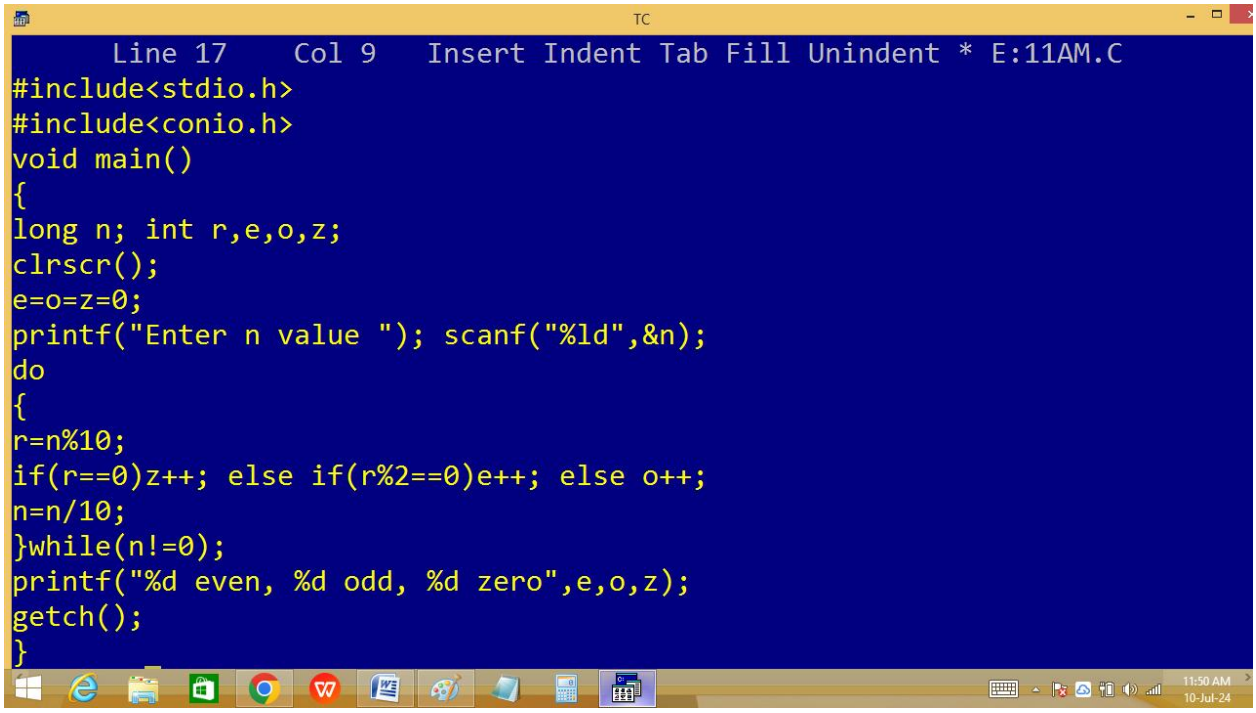



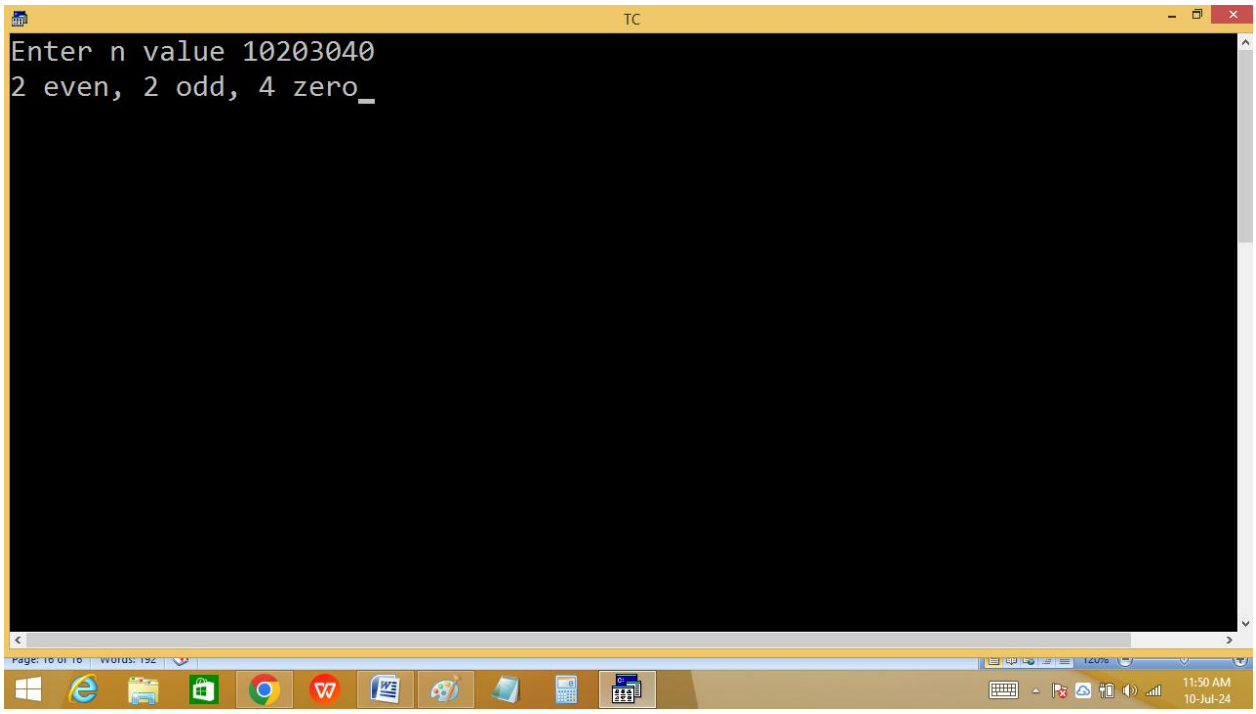
c = p(125);

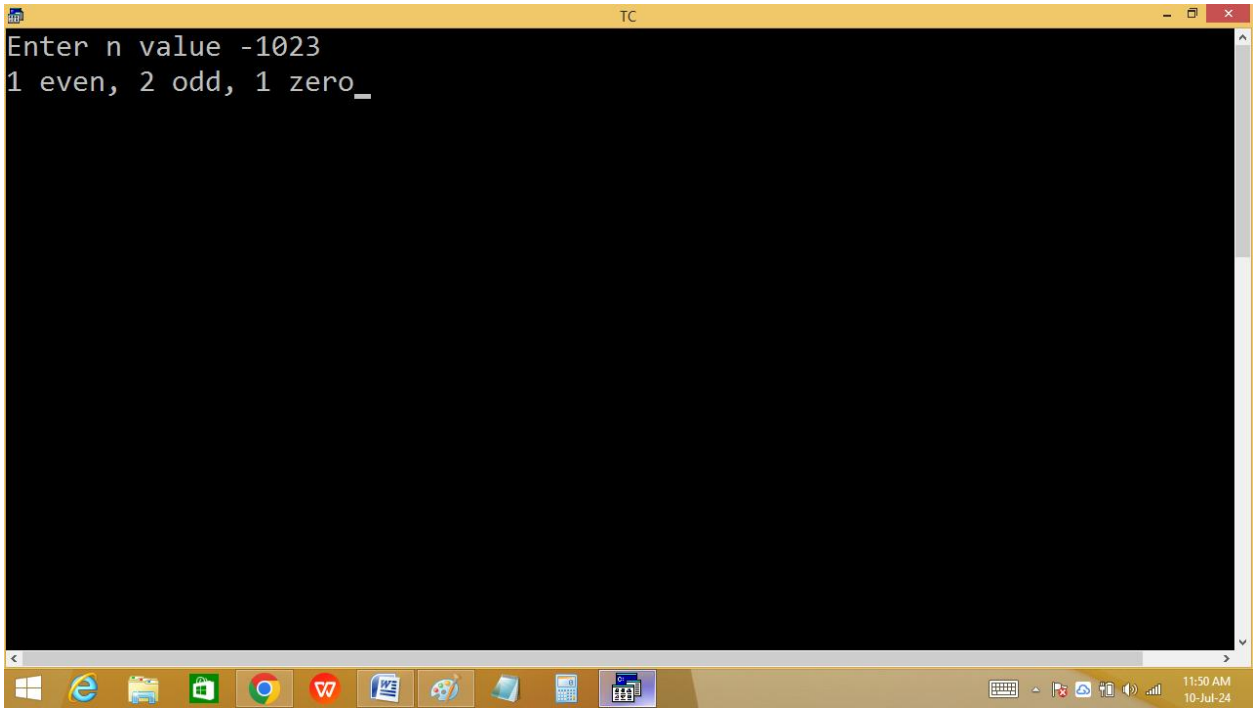
p(c);
3

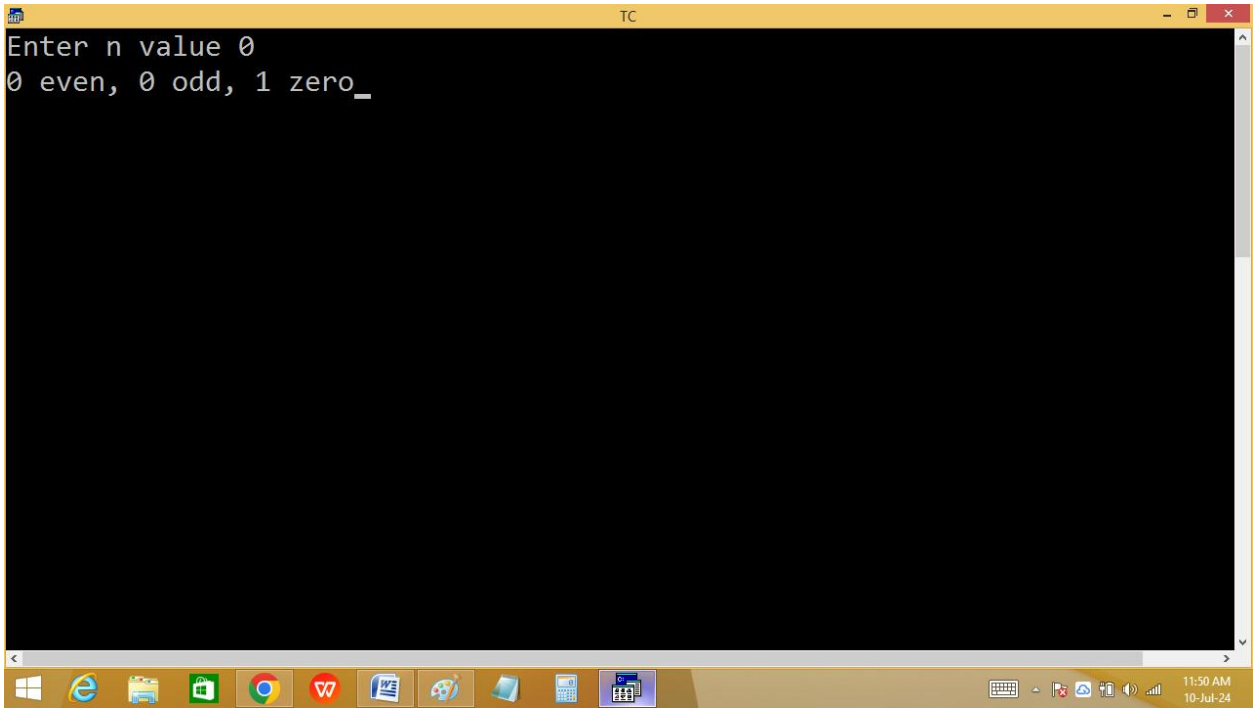
## Finding no of even, odd, zero digits in given no.

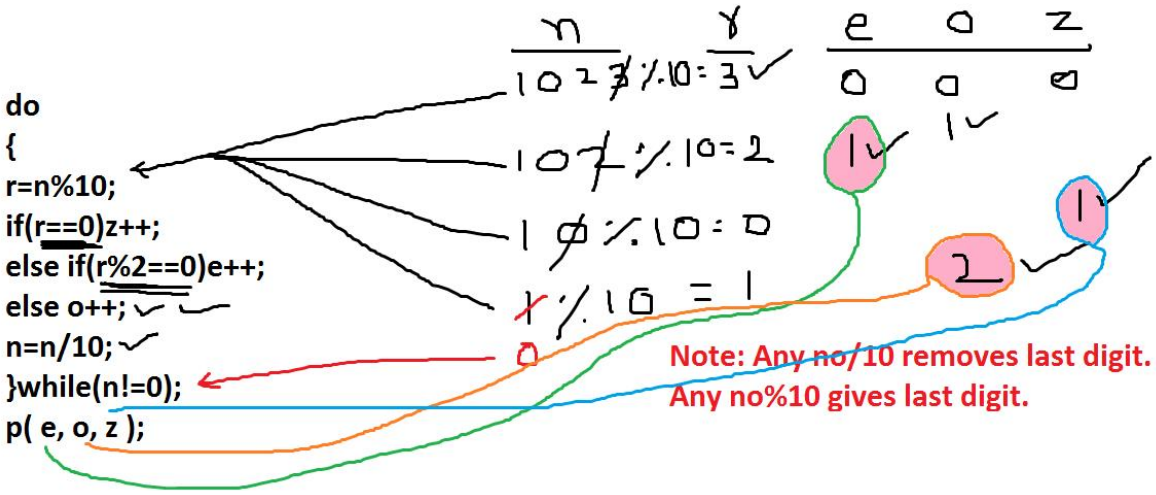
**eg: 1023 ➔ 1 even, 2 odd, 1 zero**


TC
Line 17 Col 9 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int r,e,o,z;
clrscr();
e=o=z=0;
printf("Enter n value "); scanf("%ld",&n);
do
{
r=n%10;
if(r==0)z++; else if(r%2==0)e++; else o++;
n=n/10;
}while(n!=0);
printf("%d even, %d odd, %d zero",e,o,z);
getch();
}


TC
Enter n value 10203040
2 even, 2 odd, 4 zero


TC
Enter n value -1023
1 even, 2 odd, 1 zero_
11:50 AM
10-Jul-24


TC
Enter n value 0
0 even, 0 odd, 1 zero_
11:50 AM
10-Jul-24

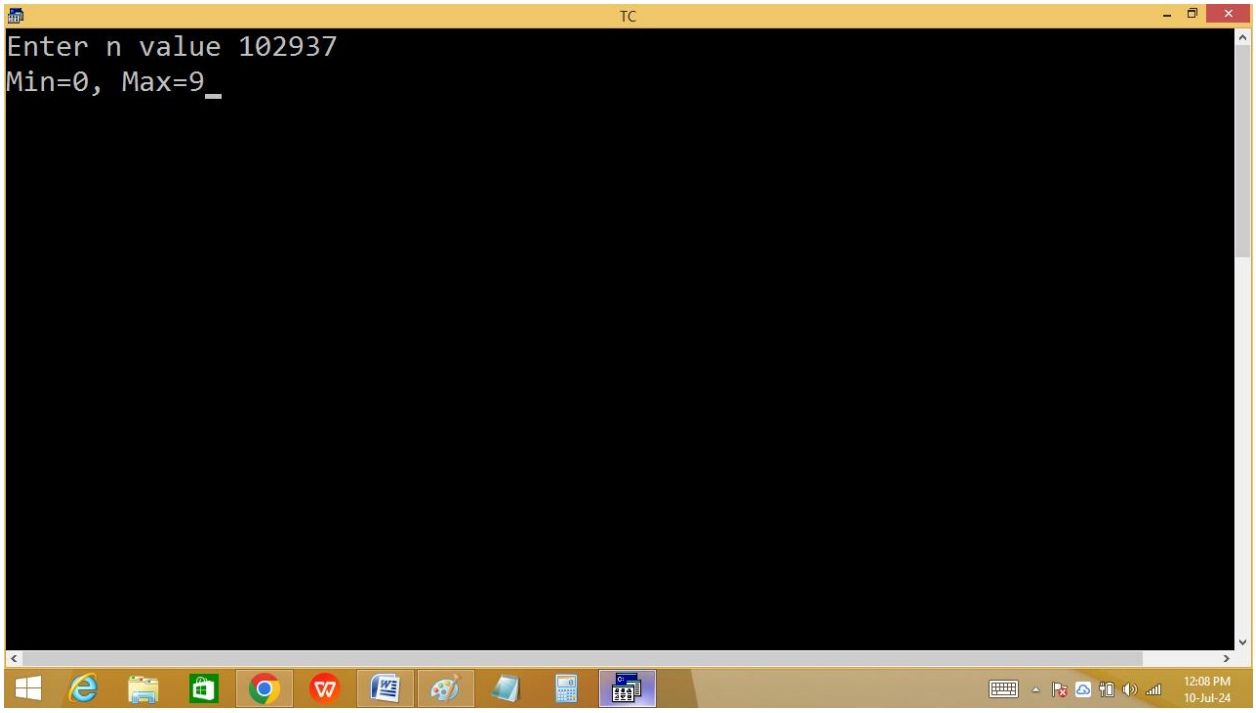


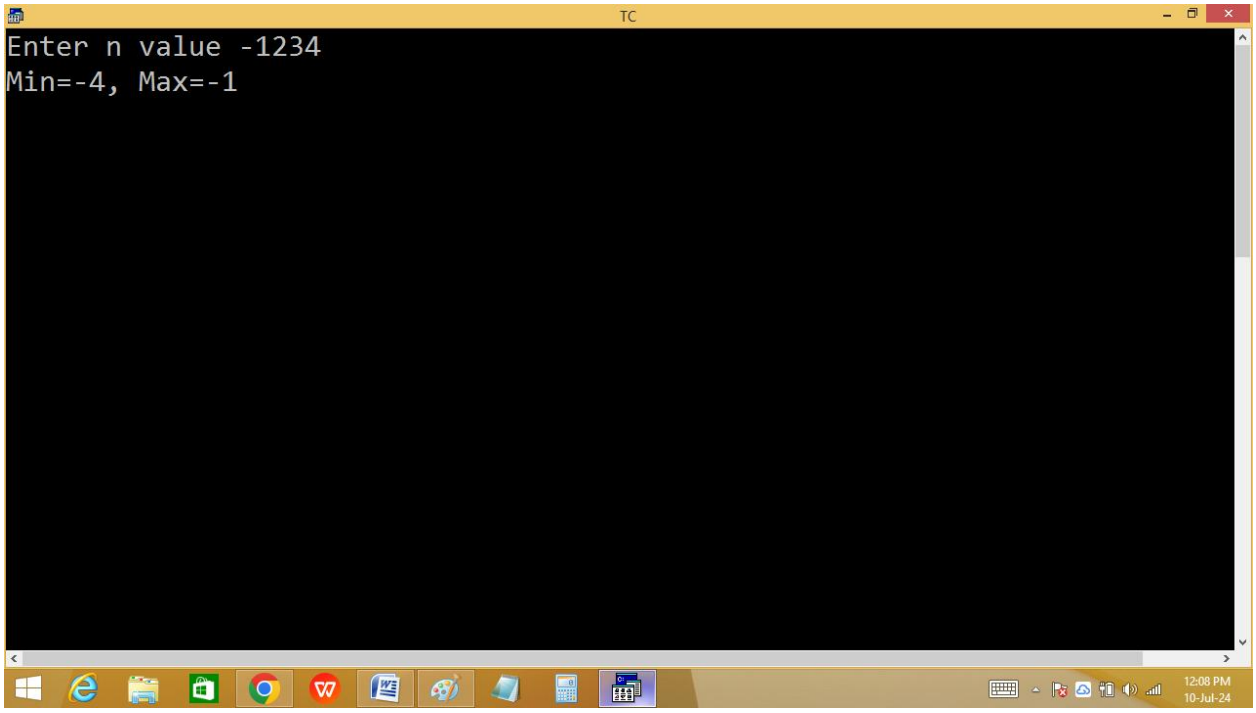

# Finding max, min digits in given no.

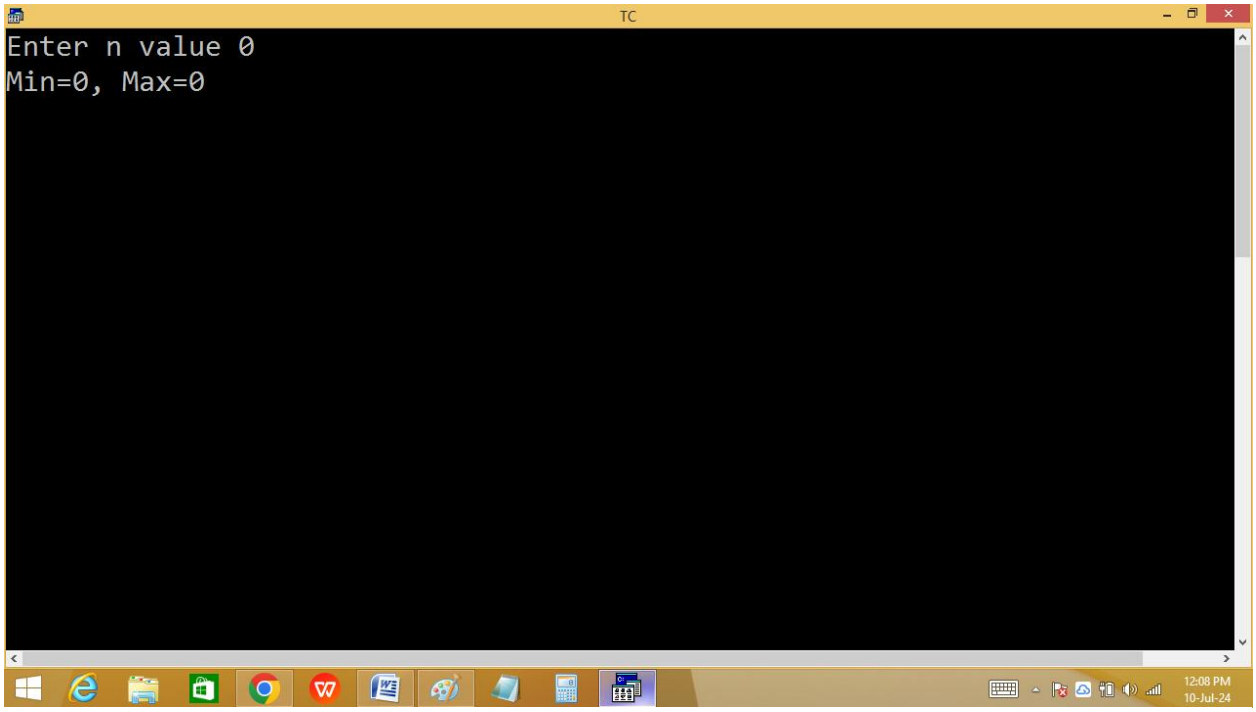
## 91247 ➔ min=1, max=9

TC

```
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int r,max=-9, min=9;
clrscr();
printf("Enter n value "); scanf("%ld",&n);
do
{
r=n%10;
if(min>r)min=r; if(max<r)max=r;
n=n/10;
}while(n!=0);
printf("Min=%d, Max=%d",min, max);
getch();
}
```


TC
Enter n value 102937
Min=0, Max=9
12:08 PM
10-Jul-24


TC
Enter n value -1234
Min=-4, Max=-1
12:08 PM
10-Jul-24




```
do
{
r=n%10;
if(min>r) min=r;
if(max<r)max=r;
n=n/10;
}while(n);

p(min, max);
```

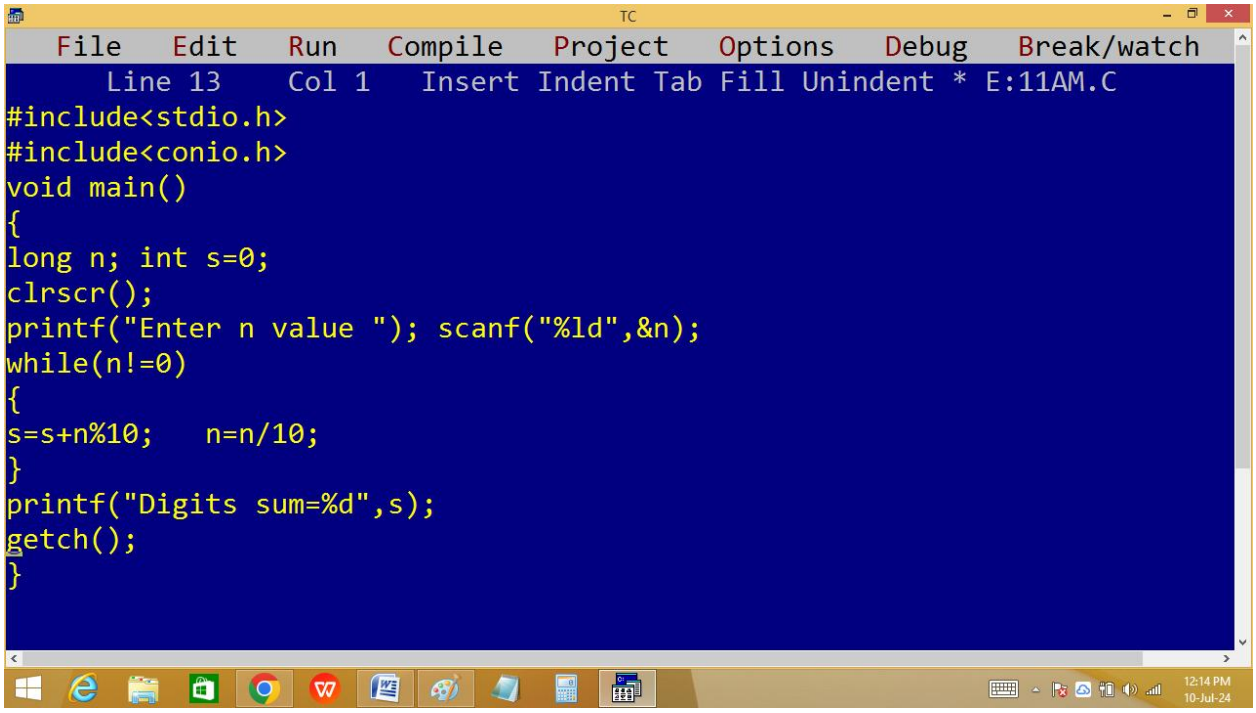
n | r
9013 | 3
901 | 1
90 | 0
9 | 9
0

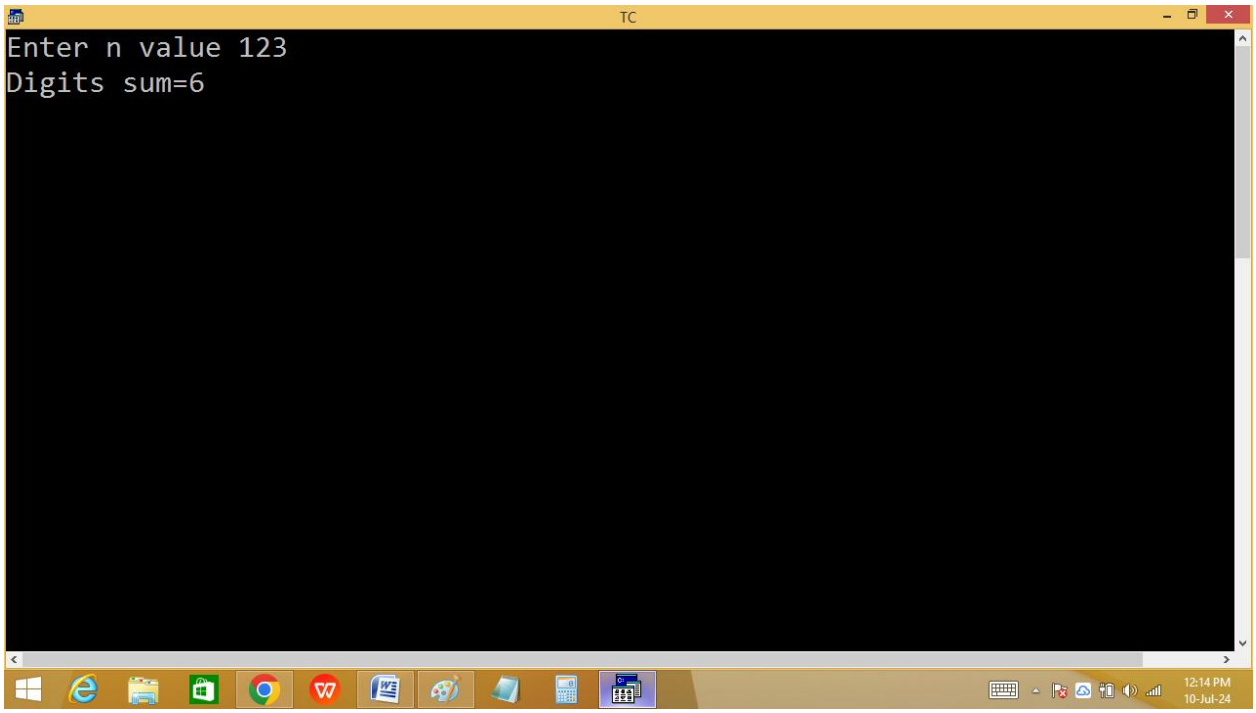
max: -9<3 ; 3<X ; 3<0 ; 3<9

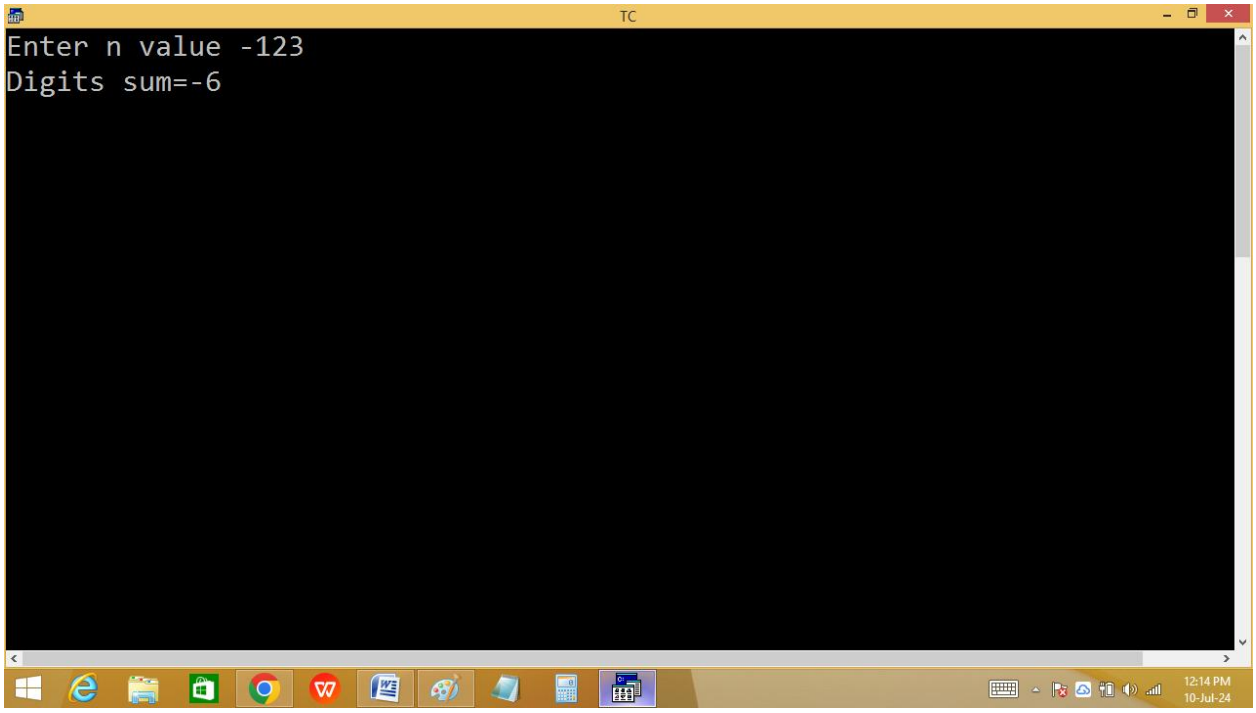
min: 9>3 ; 3>1 ; X>0 ; 0>9

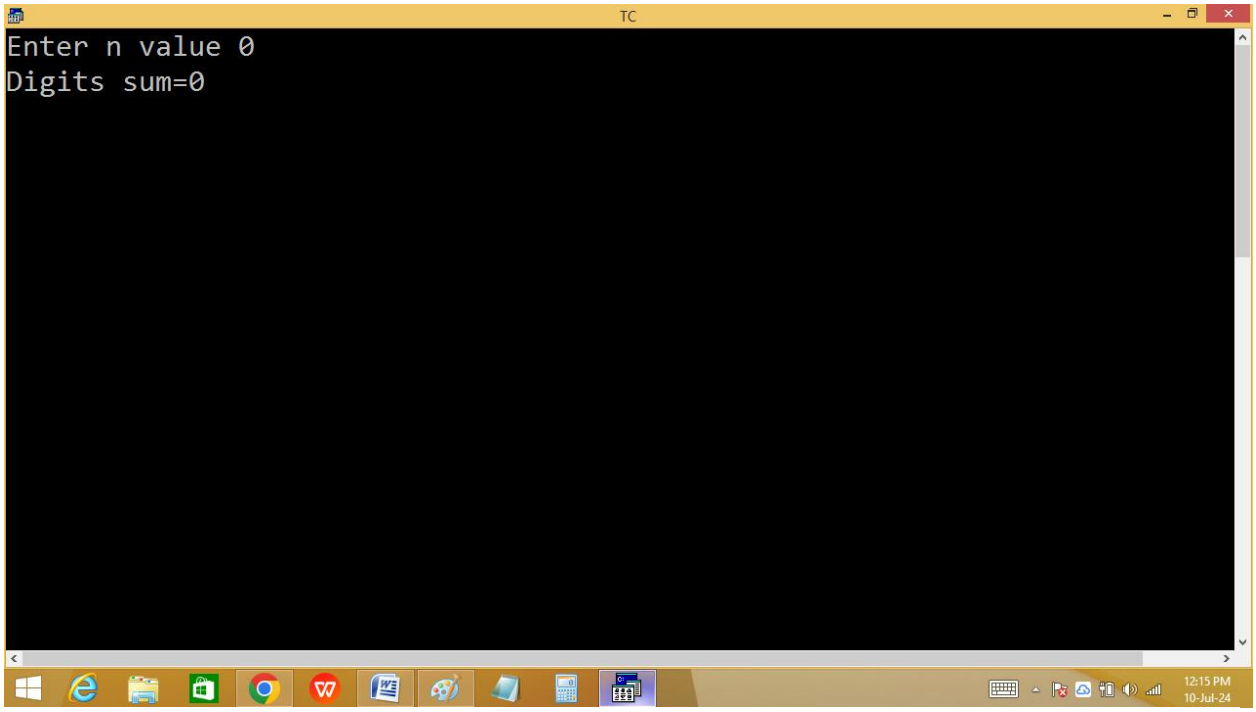
## finding digits sum:

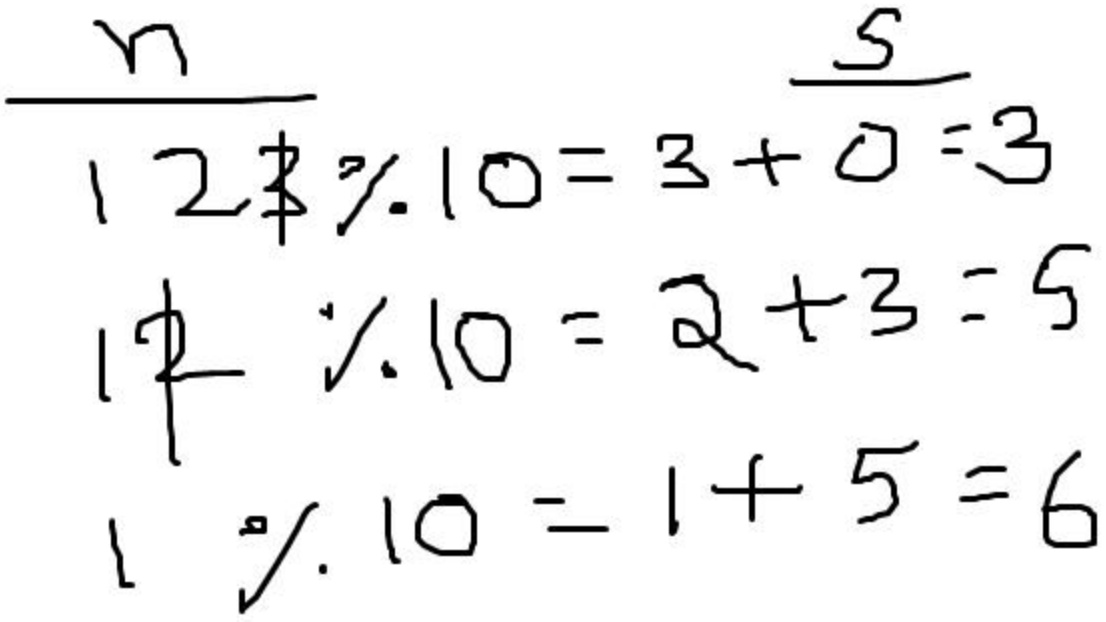
**Eg: 123 ➔ 1+2+3=6**


TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 1 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int s=0;
clrscr();
printf("Enter n value "); scanf("%ld",&n);
while(n!=0)
{
s=s+n%10; n=n/10;
}
printf("Digits sum=%d",s);
getch();
}


TC
Enter n value 123
Digits sum=6

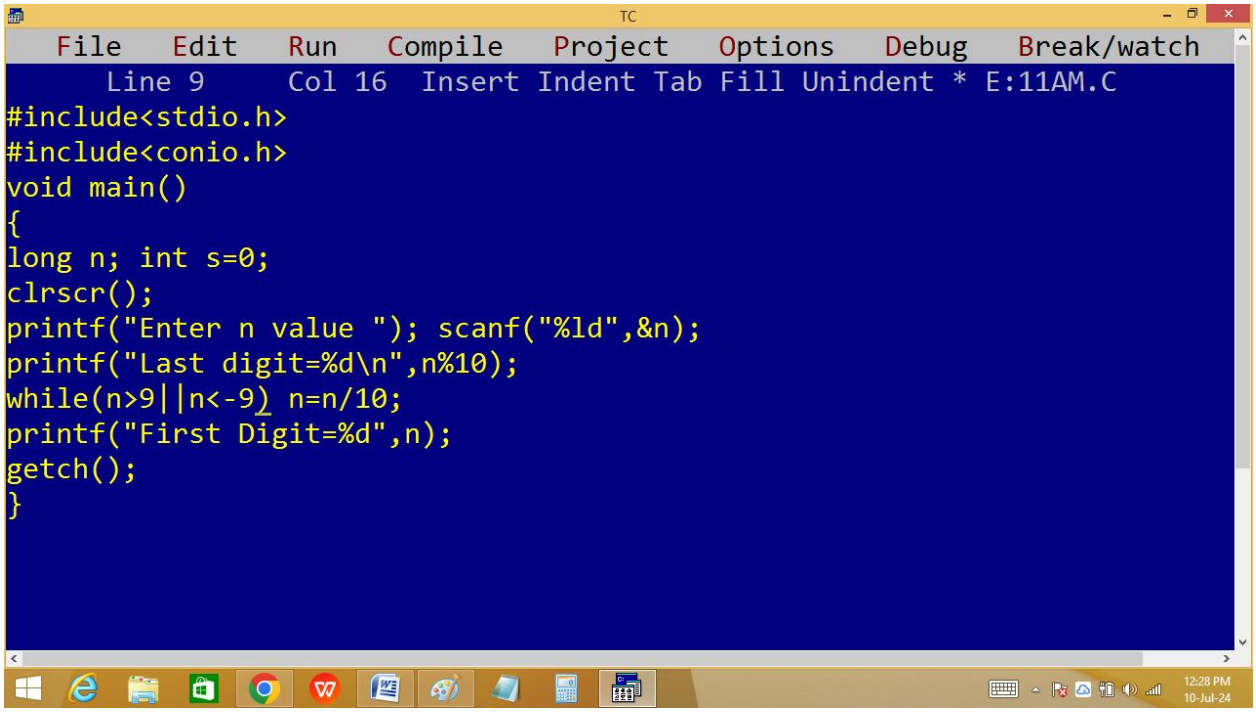

TC
Enter n value -123
Digits sum=-6
12:14 PM
10-Jul-24

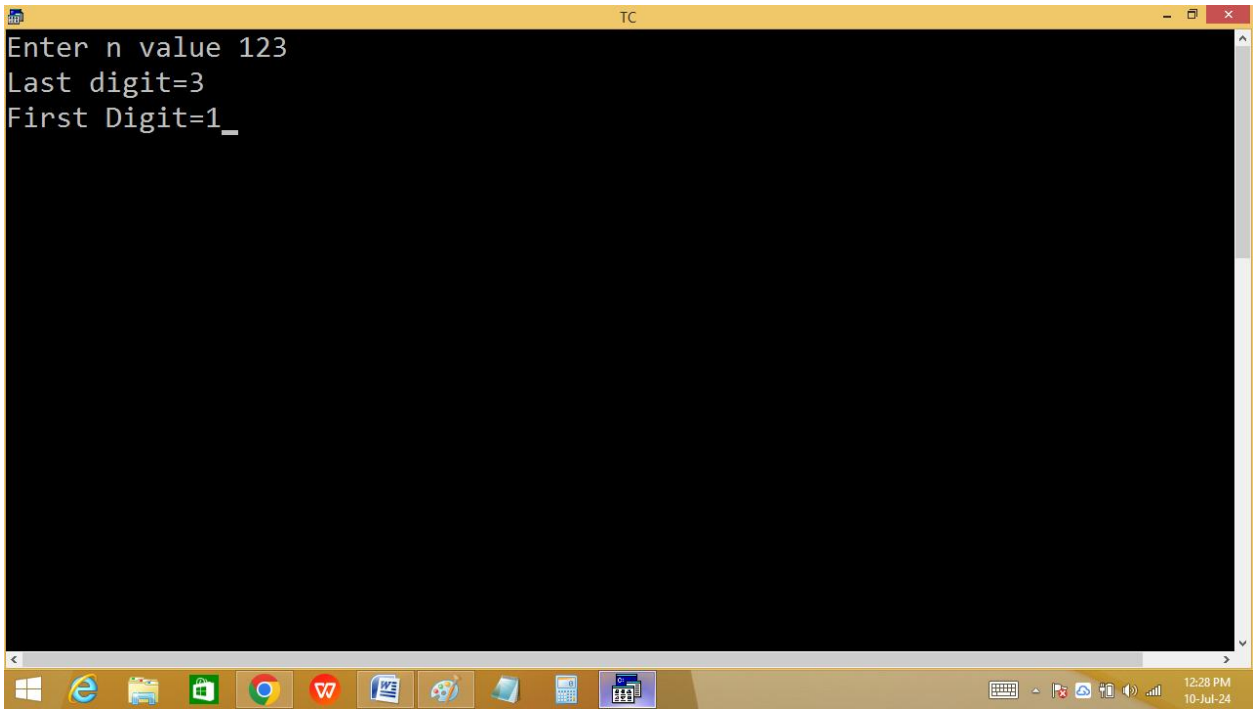


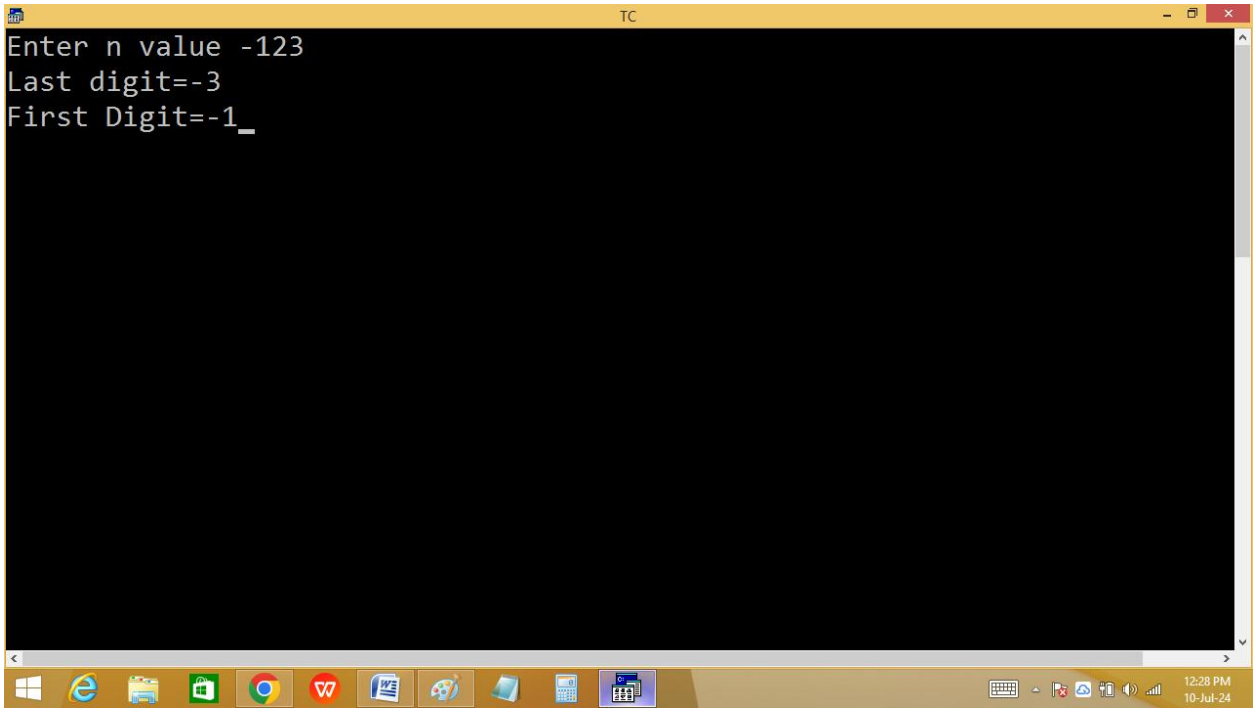



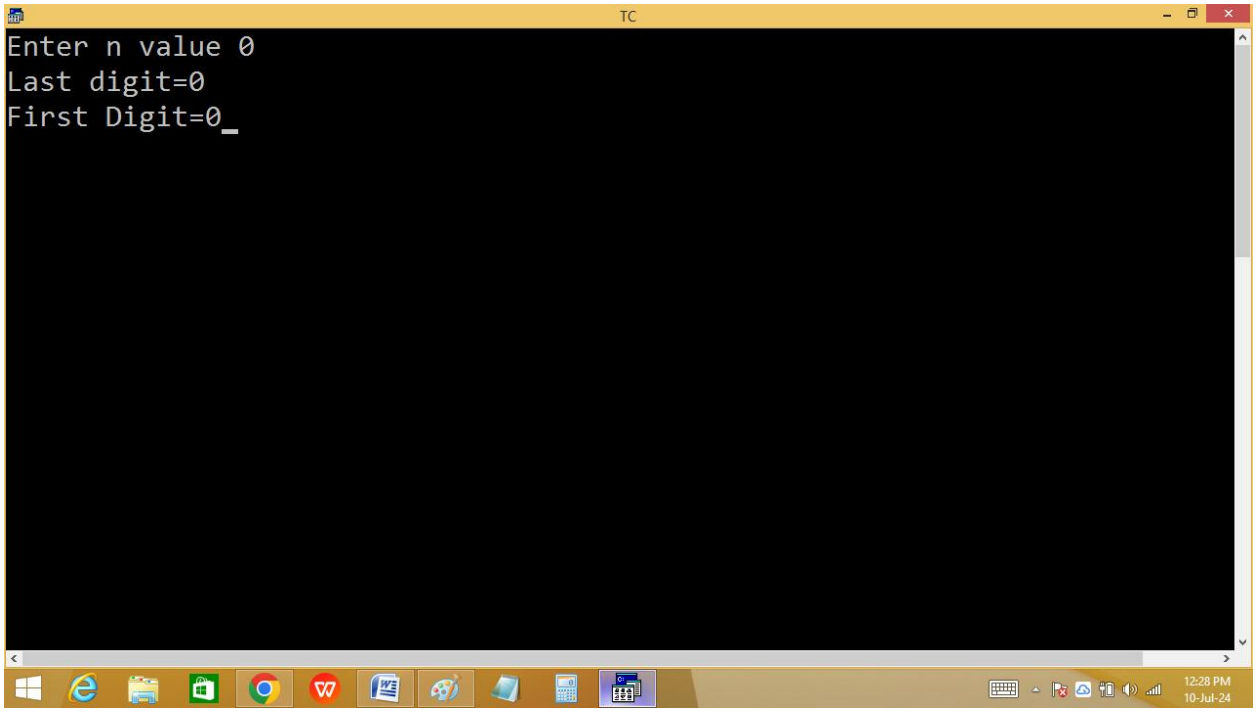

**Printing 1st and last digits of given no.**

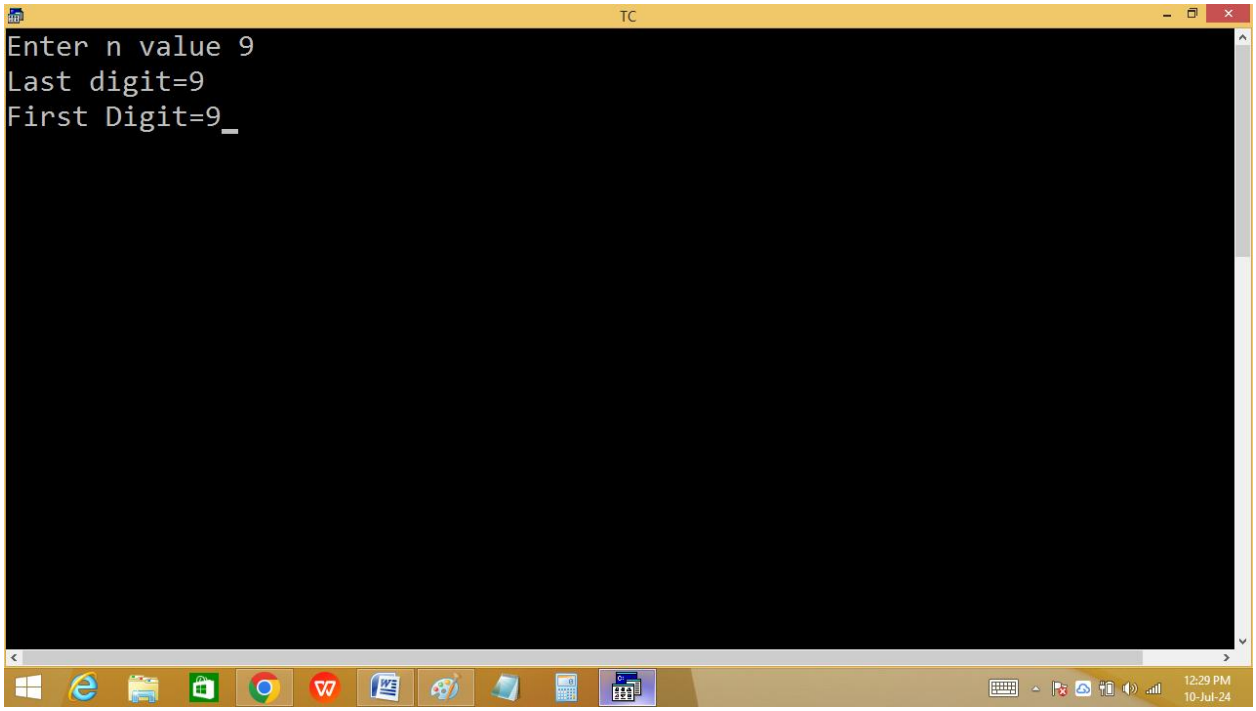
**Eg: 2078 → 8 last digit, 2 first digit.**

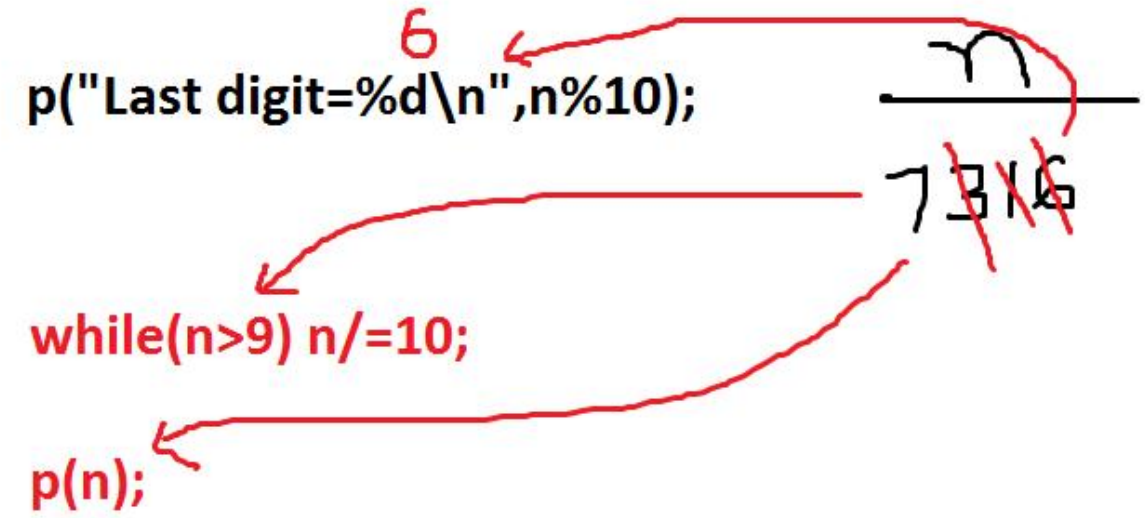

TC
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 16 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int s=0;
clrscr();
printf("Enter n value "); scanf("%ld",&n);
printf("Last digit=%d\n",n%10);
while(n>9||n<-9) n=n/10;
printf("First Digit=%d",n);
getch();
}


TC
Enter n value 123
Last digit=3
First Digit=1

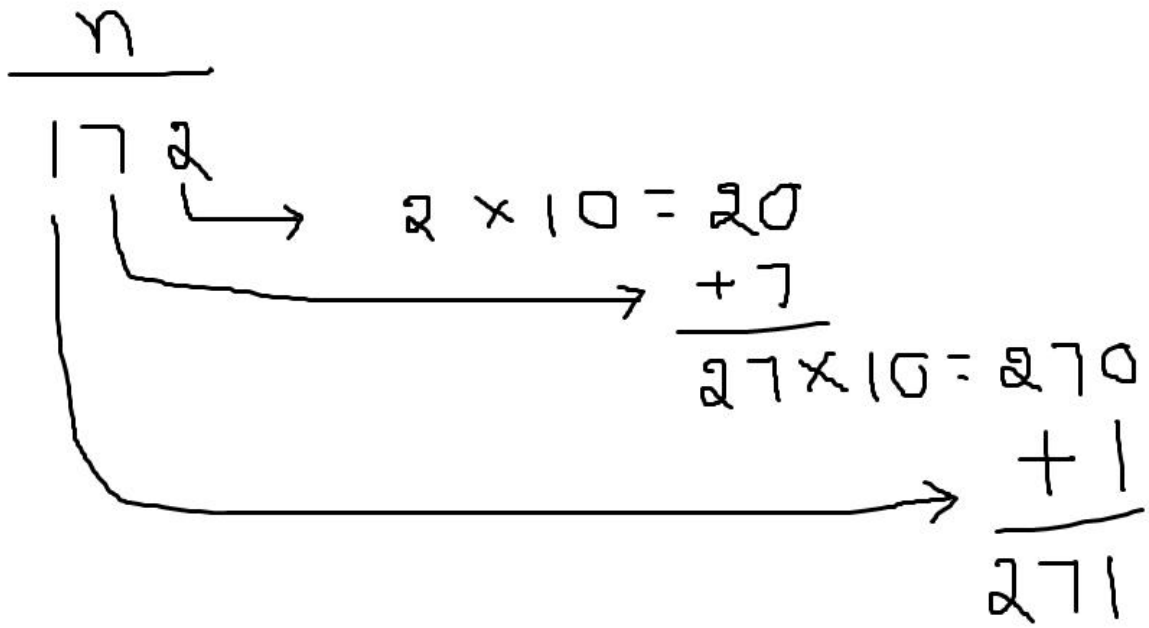

TC
Enter n value -123
Last digit=-3
First Digit=-1
12:28 PM
10-Jul-24


TC
Enter n value 0
Last digit=0
First Digit=0
12:28 PM
10-Jul-24


TC
Enter n value 9
Last digit=9
First Digit=9
12:29 PM
10-Jul-24

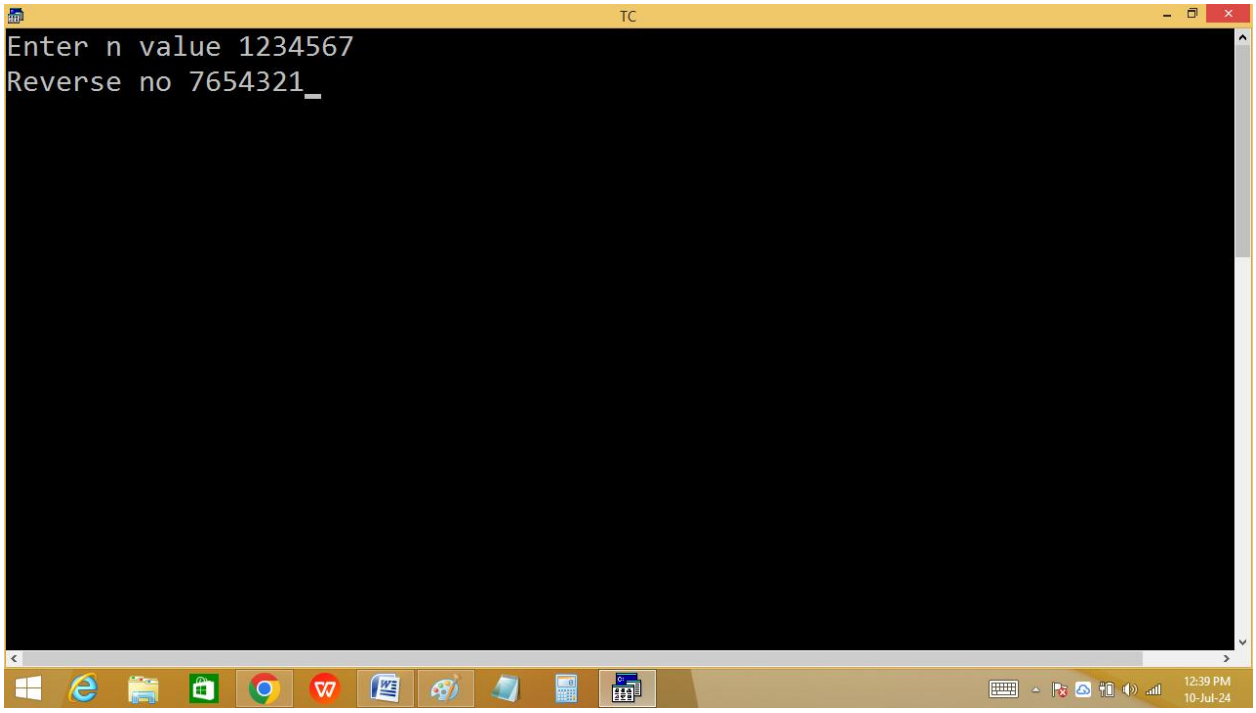

6
p("Last digit=%d\n",n%10);
n
7316
while(n>9) n/=10;
p(n);

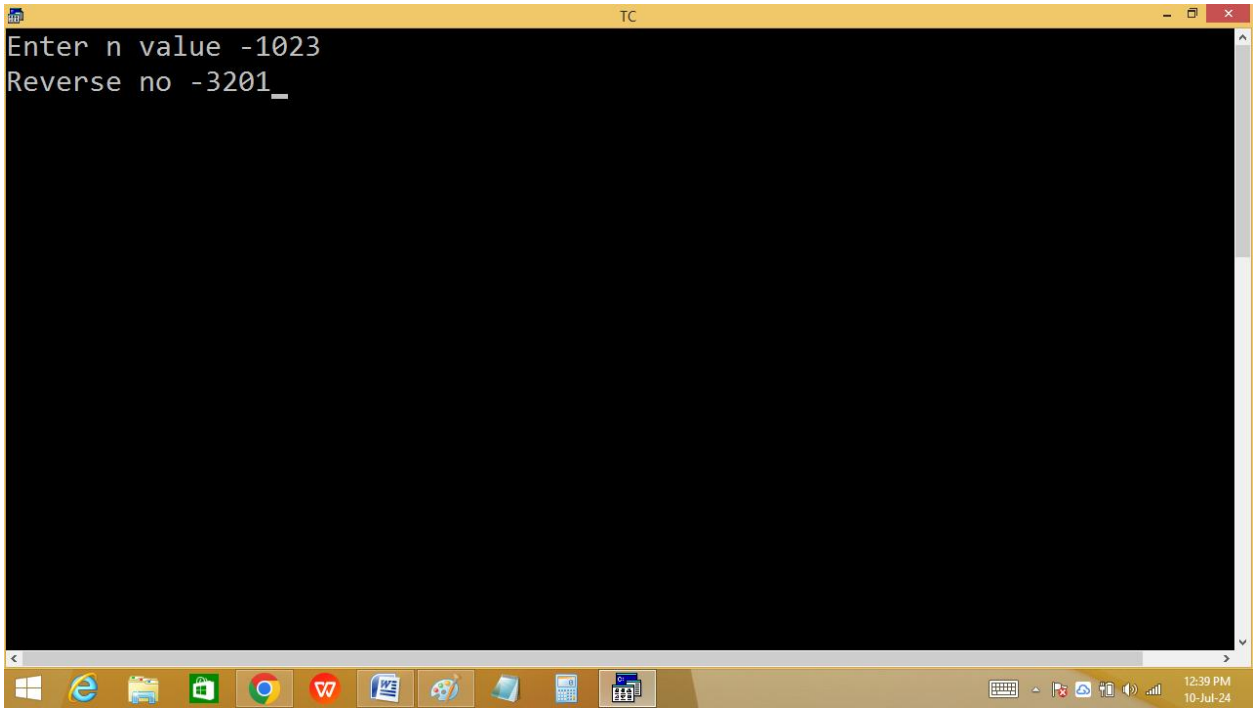
# Reverse no:

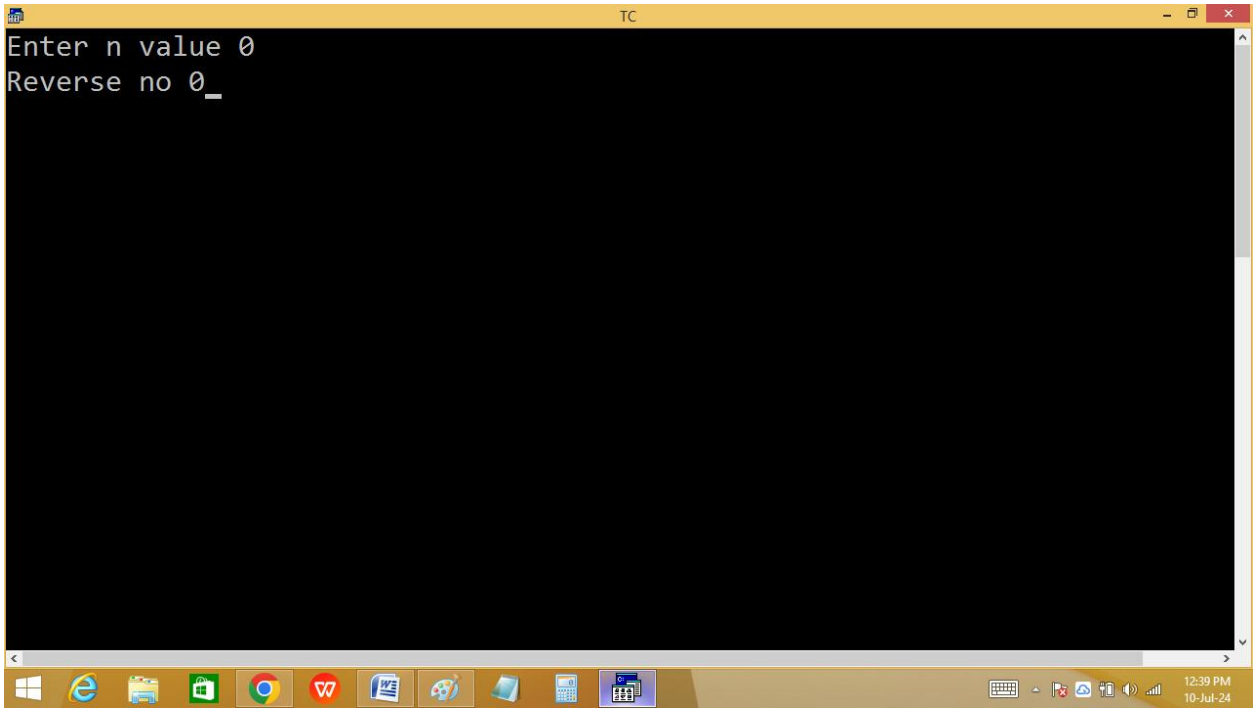


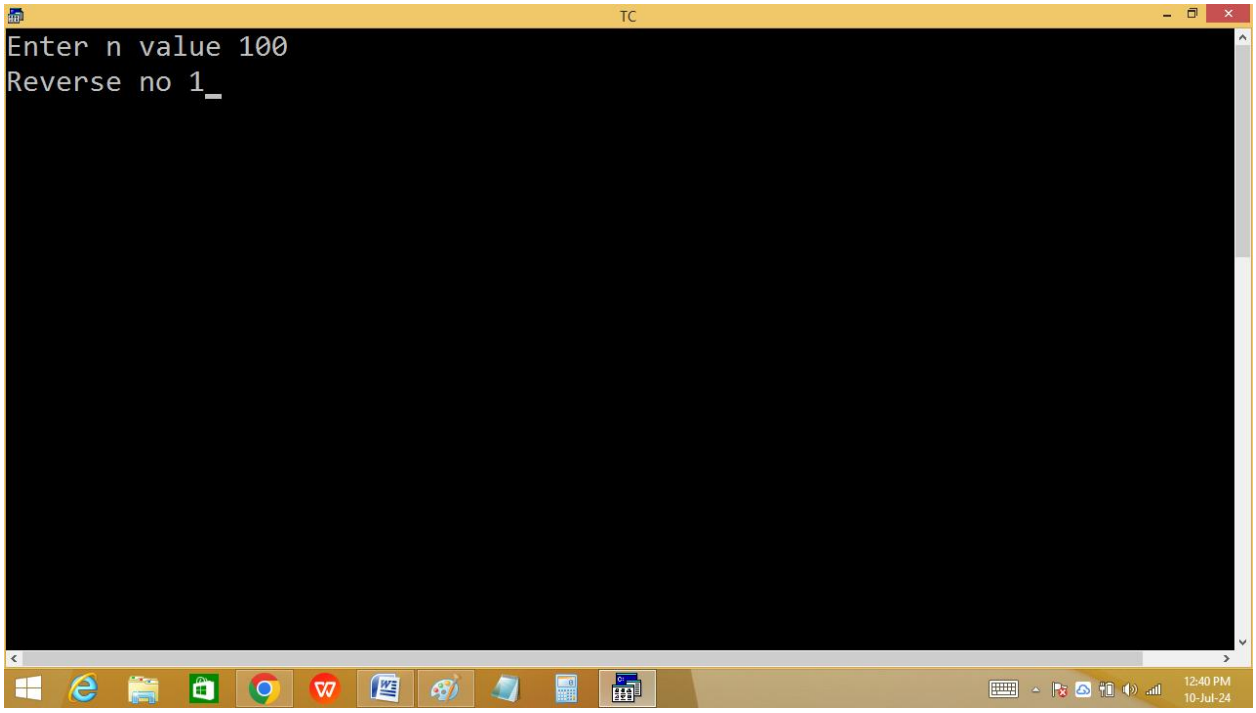

TC

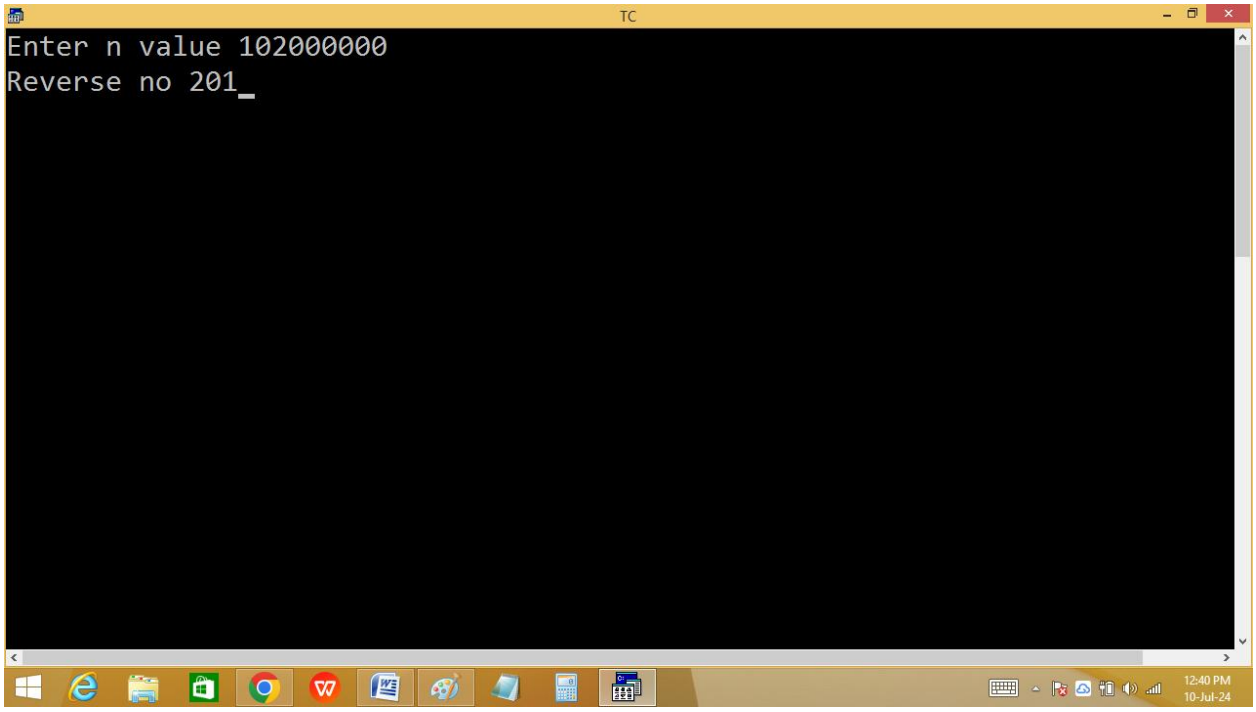
```
#include<stdio.h>
#include<conio.h>
void main()
{
long n,rev=0;int r;
clrscr();
printf("Enter n value "); scanf("%ld",&n);
while(n)
{
r=n%10;
rev=rev*10+r;
n=n/10;
}
printf("Reverse no %ld",rev);
getch();
}
```


TC
Enter n value 1234567
Reverse no 7654321
12:39 PM
10-Jul-24

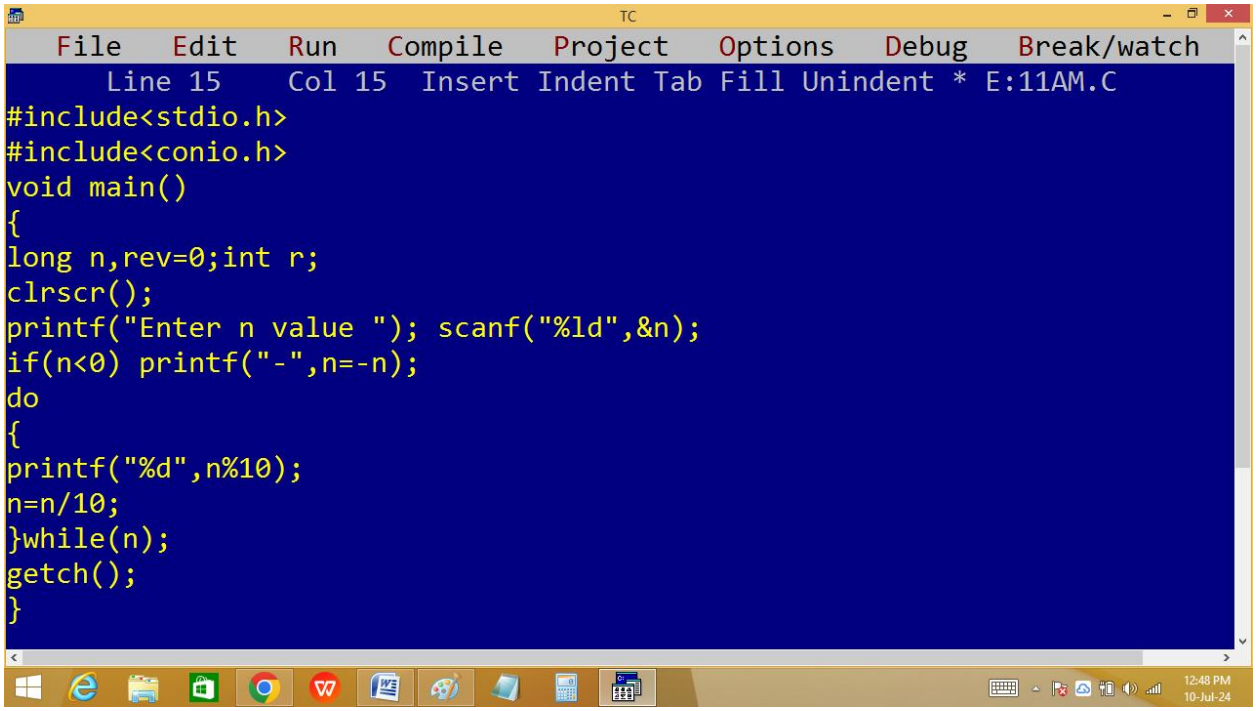

TC
Enter n value -1023
Reverse no -3201
12:39 PM
10-Jul-24

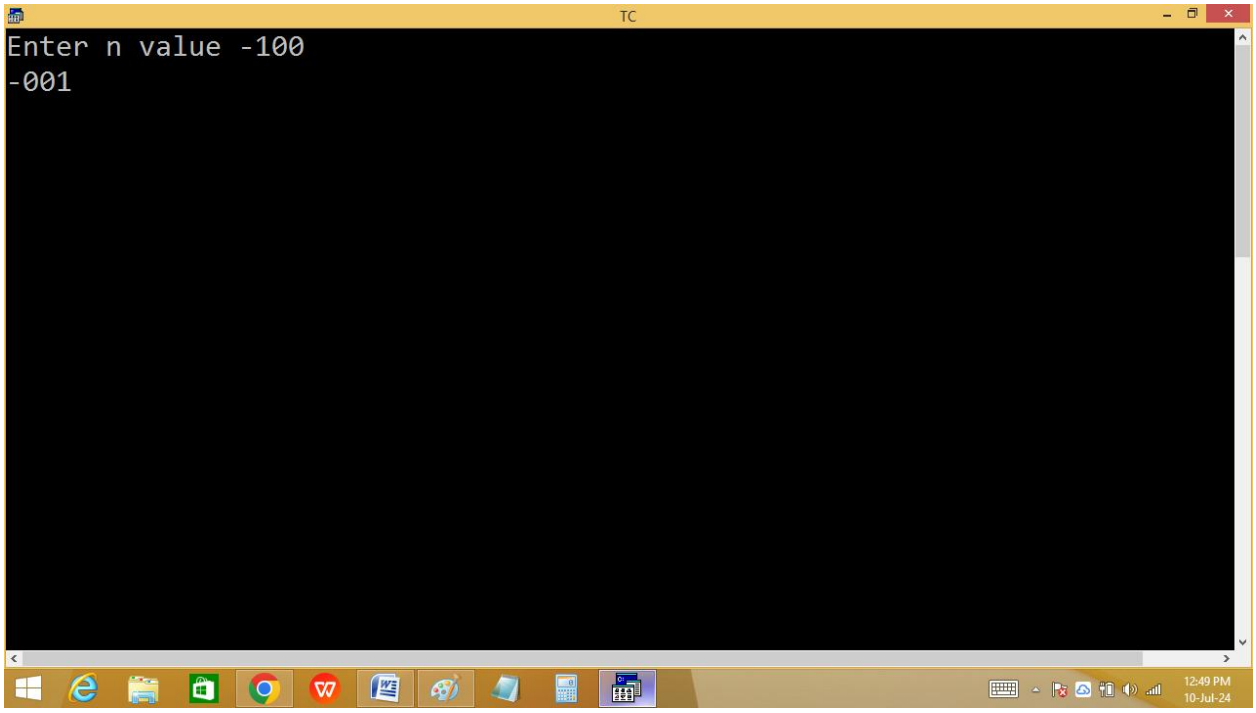

TC
Enter n value 0
Reverse no 0_
12:39 PM
10-Jul-24

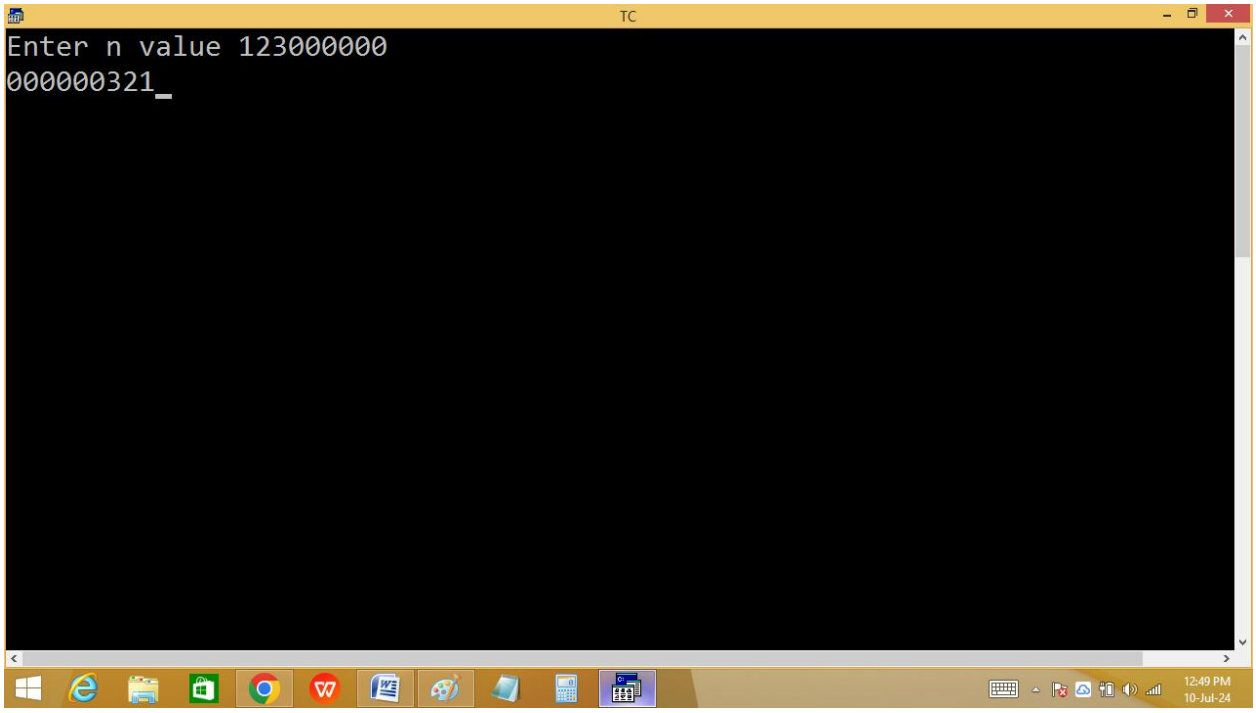

TC
Enter n value 100
Reverse no 1_
12:40 PM
10-Jul-24

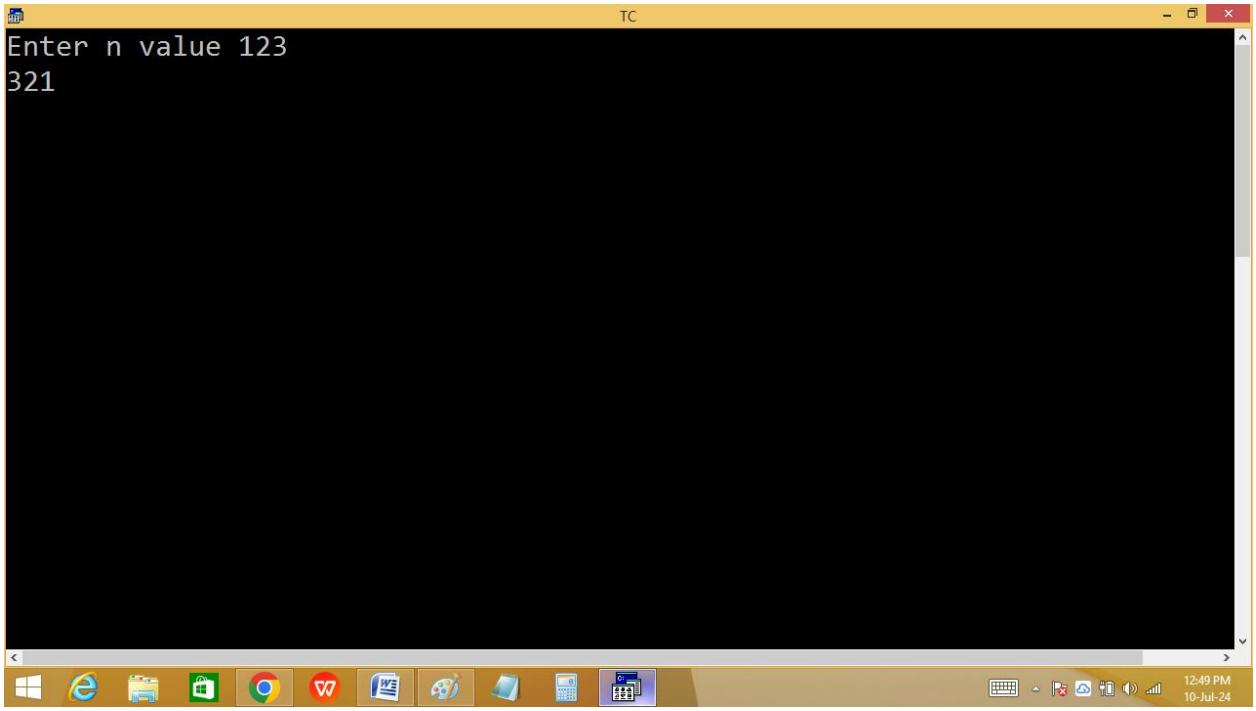



# Printing 100 as 001:




TC
Enter n value -100
-001
12:49 PM
10-Jul-24


TC
Enter n value 123000000
000000321
12:49 PM
10-Jul-24


TC
Enter n value 123
321
12:49 PM
10-Jul-24