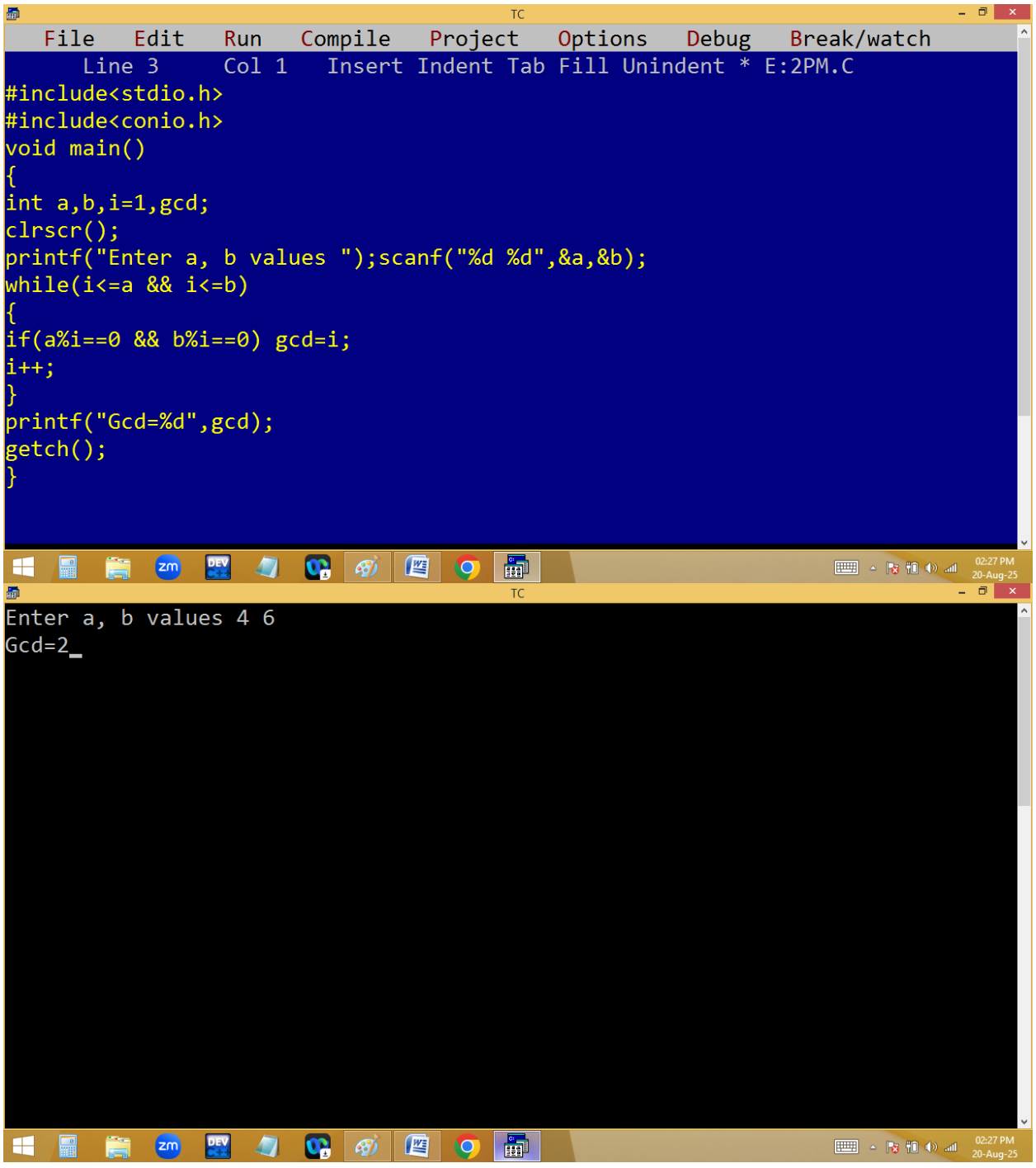
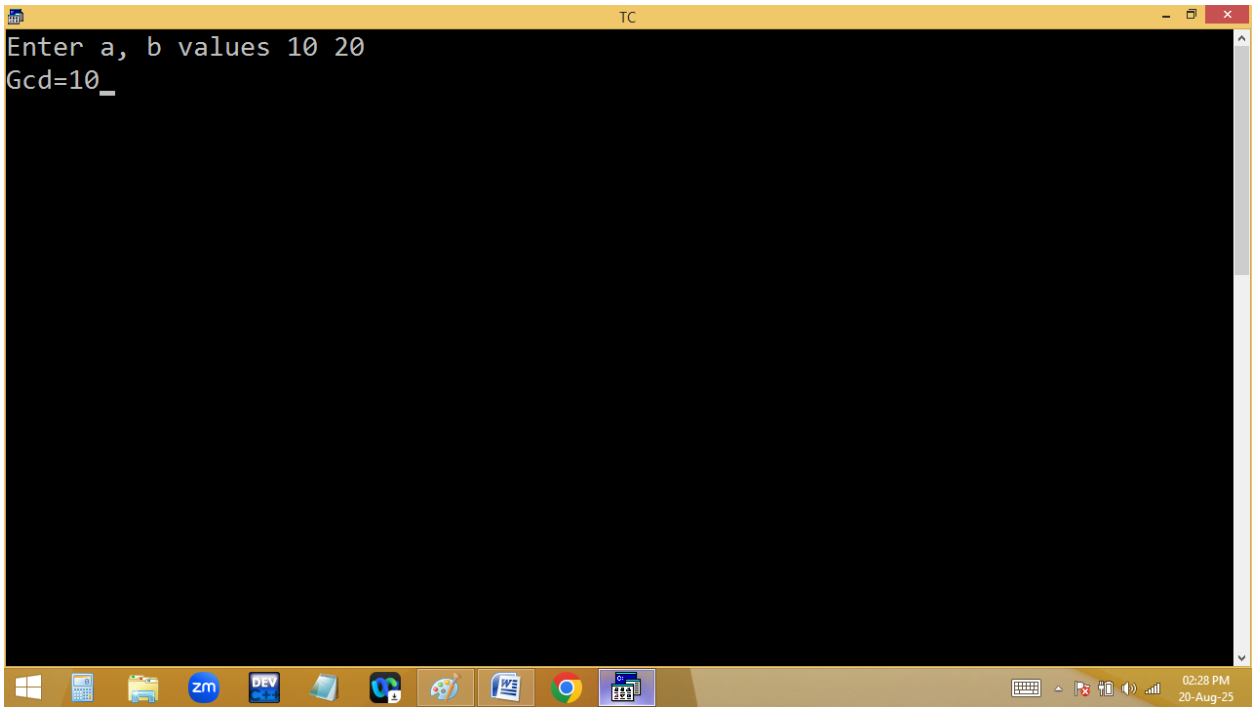
Finding gcd / hcf of given two numbers:

4 factors are 1,2,4

6 factors are 1,2,3,6


TC
File Edit Run Compile Project Options Debug Break/watch
Line 3 Col 1 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,i=1,gcd;
clrscr();
printf("Enter a, b values ");scanf("%d %d",&a,&b);
while(i<=a && i<=b)
{
if(a%i==0 && b%i==0) gcd=i;
i++;
}
printf("Gcd=%d",gcd);
getch();
}
02:27 PM
20-Aug-25
TC
Enter a, b values 4 6
Gcd=2
02:27 PM
20-Aug-25



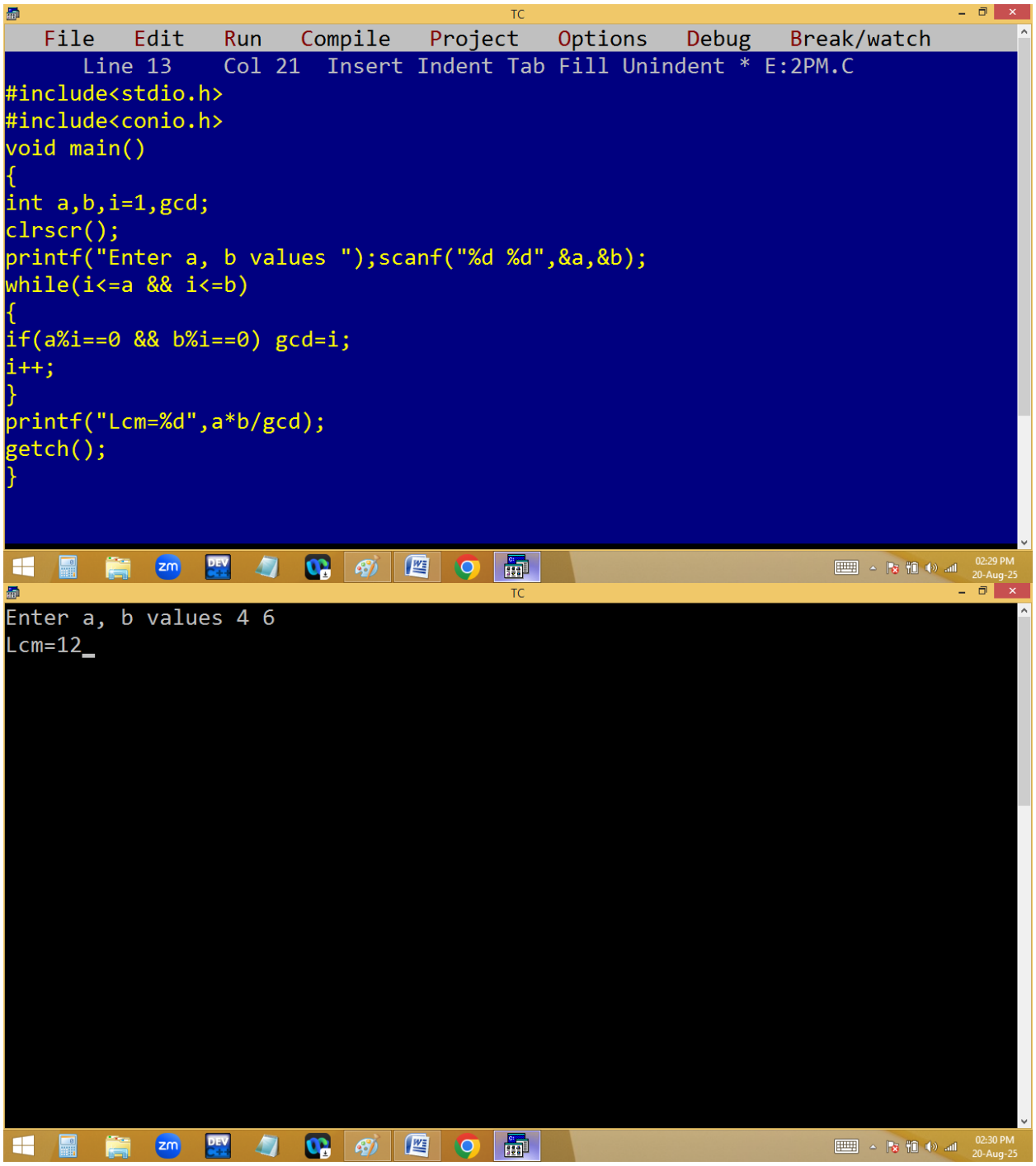
a	i<=4	b	i<=6	gcd
4 %	1=0	6 %	1=0	1
4 %	2=0	6 %	2=0	2
4 %	3= 1			
4 %	4=0	6 % 4 = 2		
	5<=4			

```
while( i<=a && i<=b)
{
if(a%i==0&&b%i==0)
{
 gcd=i;
}
i++;
}
p( gcd );
```

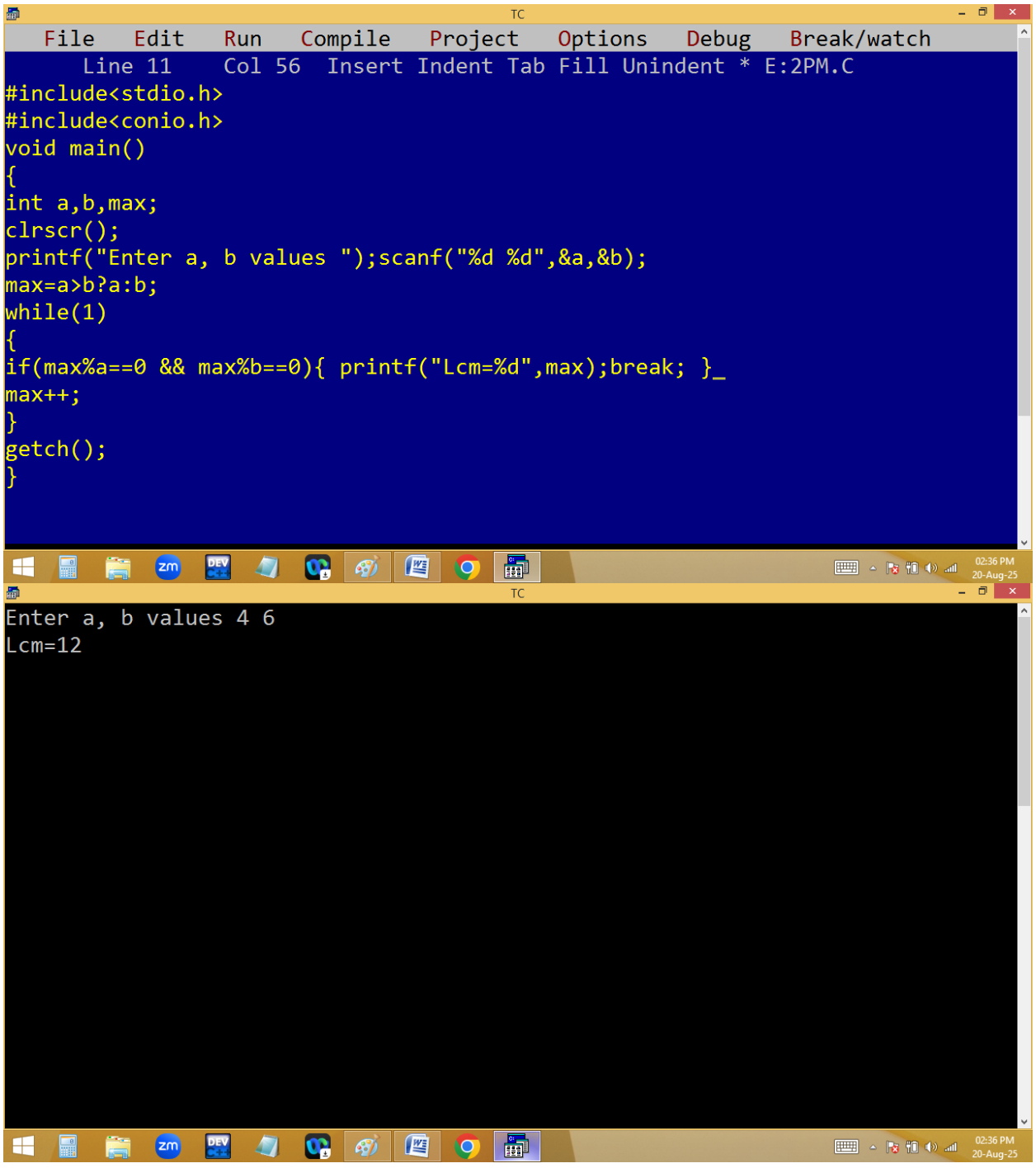
Finding lcm of given two numbers:

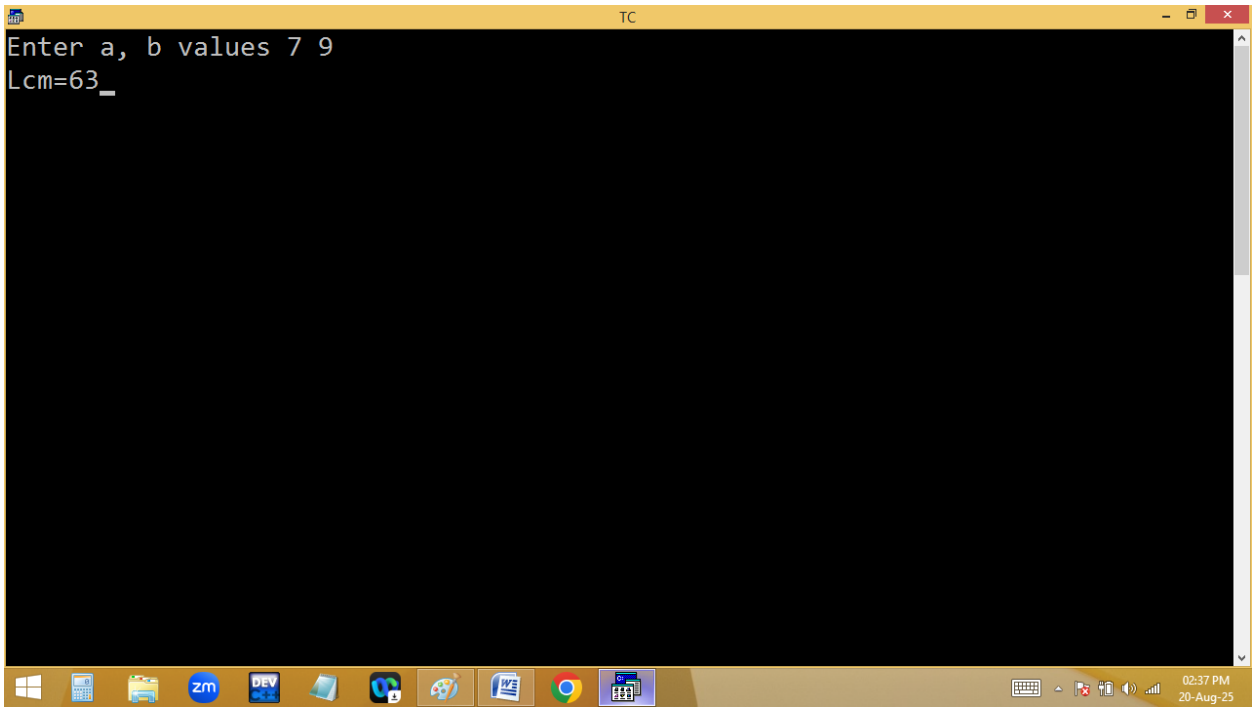
Using gcd:

a*b/gcd = 4*6/2=12



Without using gcd:


TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 56 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,max;
clrscr();
printf("Enter a, b values ");scanf("%d %d",&a,&b);
max=a>b?a:b;
while(1)
{
if(max%a==0 && max%b==0){ printf("Lcm=%d",max);break; }
max++;
}
getch();
}
02:36 PM
20-Aug-25
TC
Enter a, b values 4 6
Lcm=12
02:36 PM
20-Aug-25



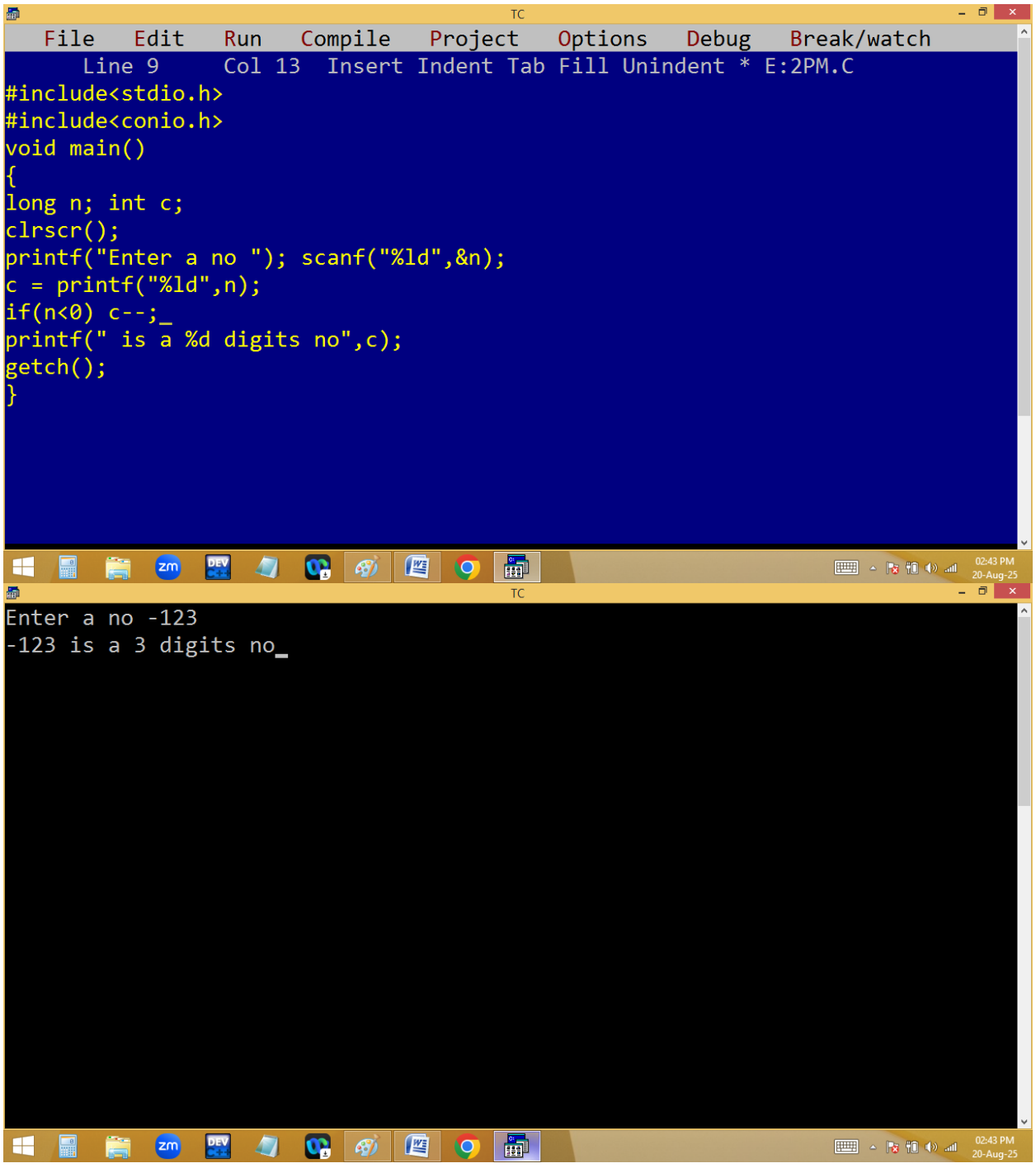

```
max = a>b?a:b;


while( 1 )
{
if(max%a==0 && max%b==0)
{
p("Lcm=%d",max);break;
}
max++;
}
```

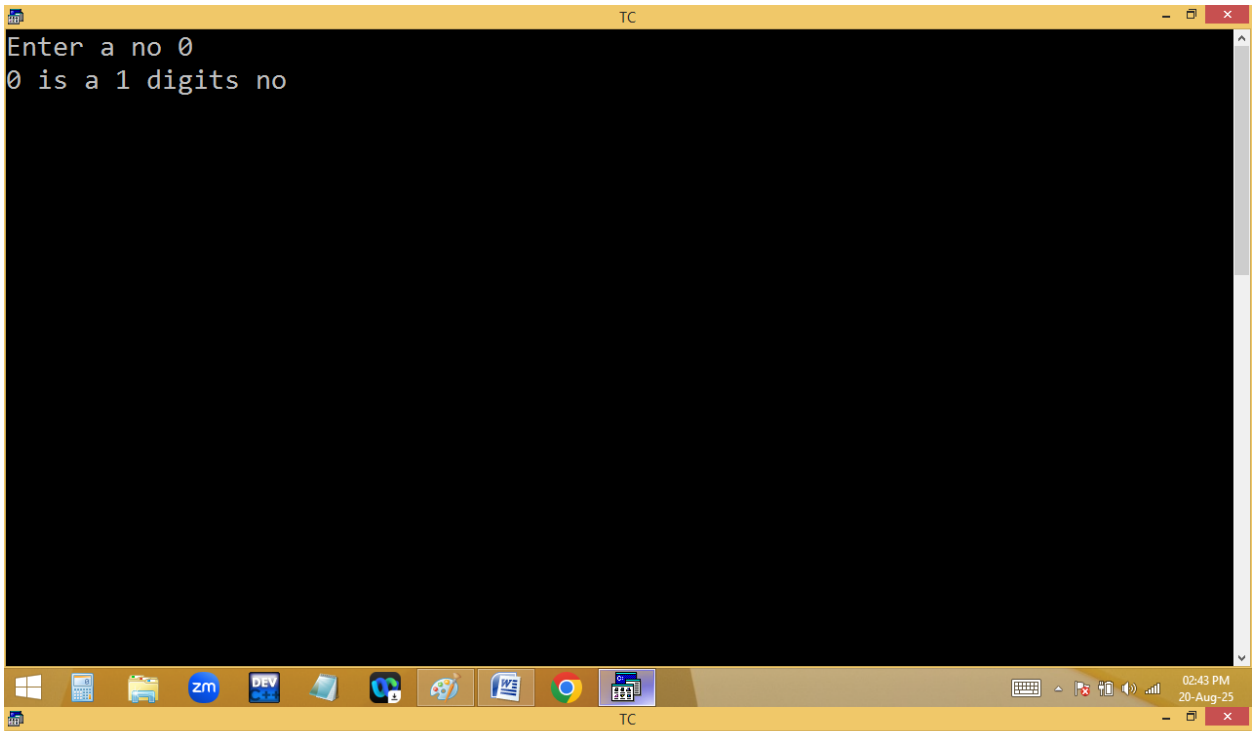
max	a	max	b
6	6 % 4 = 2	6	6
7	7 % 4 = 3		
8	8 % 4 = 0	8 % 6 = 2	
9	9 % 4 = 1		
10	10 % 4 = 2		
11	11 % 4 = 3		
12	12 % 4 = 0	12 % 6 = 0	

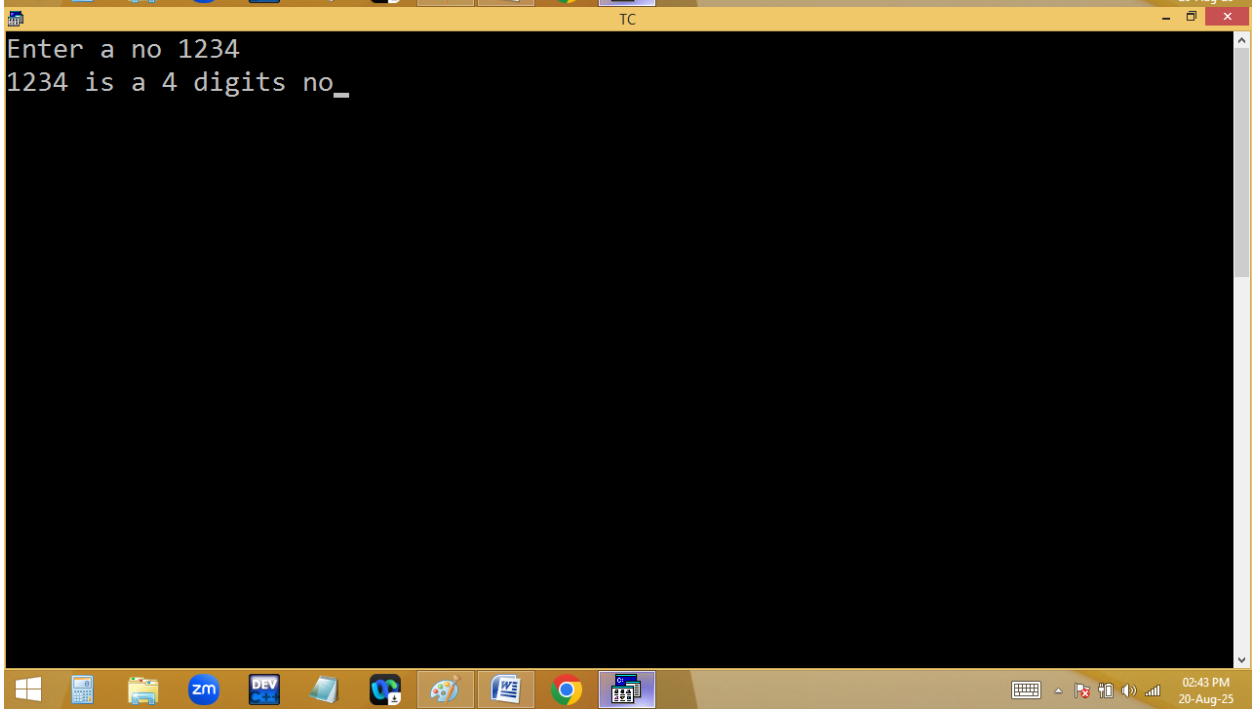
Finding the no of digits in given no?

Eg: 2025 ➔ 4 digit no

Without using loop?


TC
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 13 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int c;
clrscr();
printf("Enter a no "); scanf("%ld",&n);
c = printf("%ld",n);
if(n<0) c--;_
printf(" is a %d digits no",c);
getch();
}
02:43 PM
20-Aug-25
TC
Enter a no -123
-123 is a 3 digits no_
02:43 PM
20-Aug-25


TC
Enter a no 0
0 is a 1 digits no
02:43 PM
20-Aug-25


TC
Enter a no 1234
1234 is a 4 digits no
02:43 PM
20-Aug-25

n
2025

```
c = printf(2025);
p(" is a %d digits no",c);
```

4

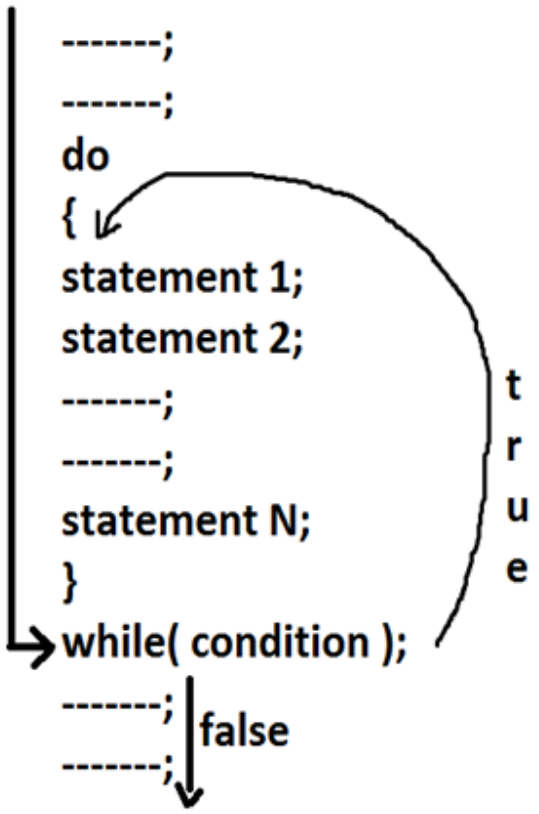
```
2025  is a 4 digits no
```

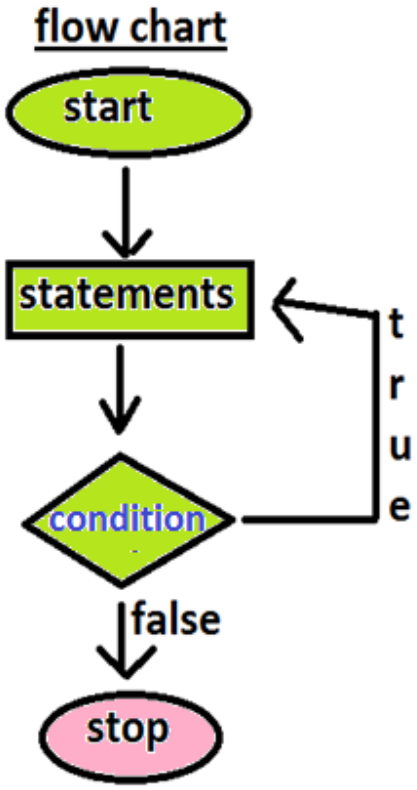
do .. while:

- 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

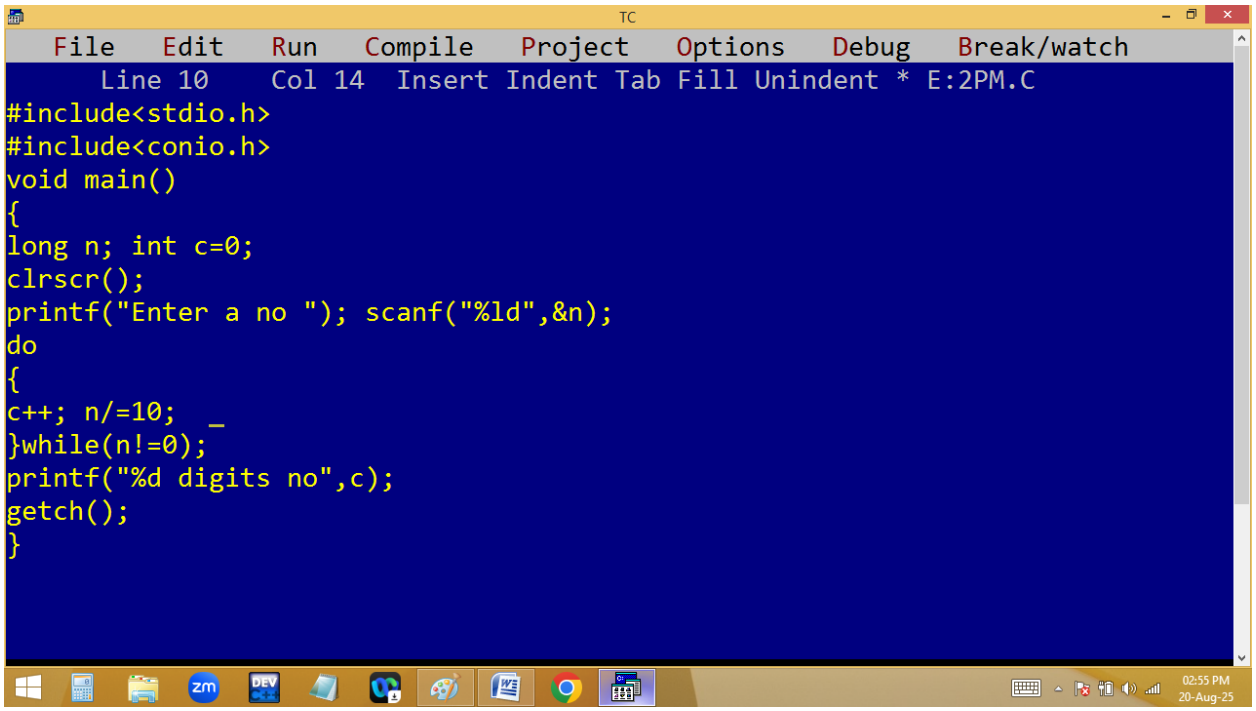
process is continued until the while condition becomes false.

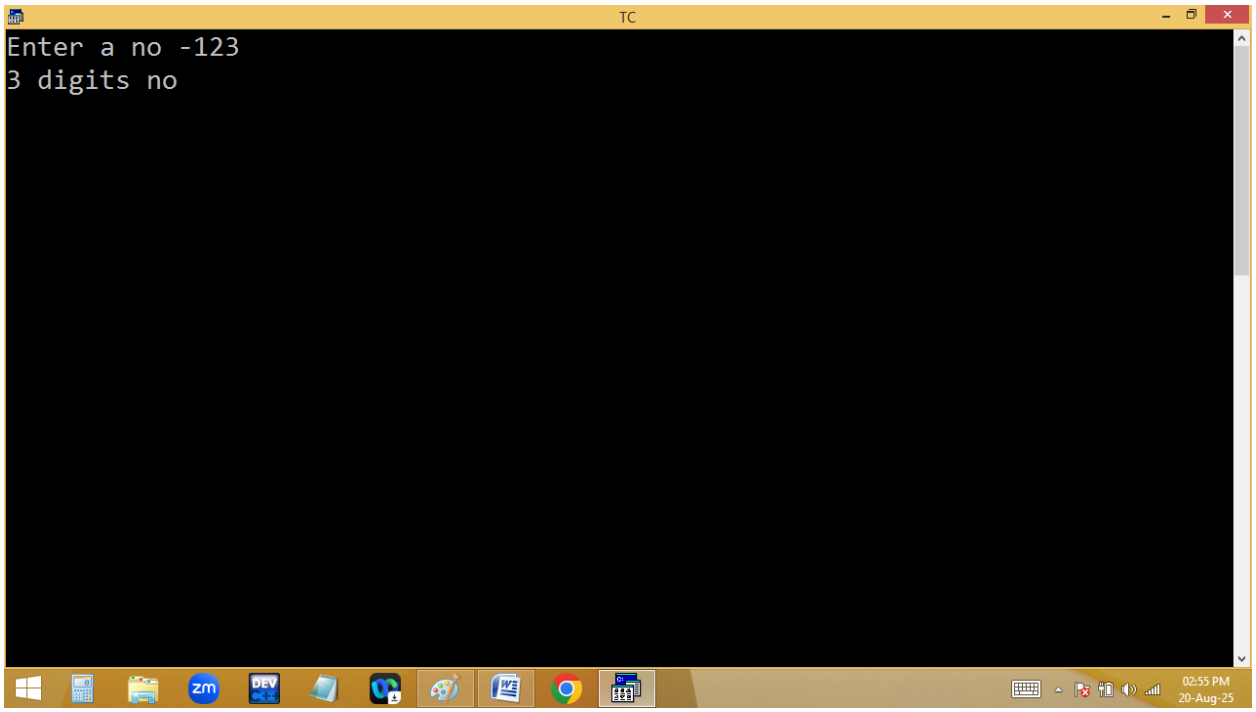
- In do while, the while should be end with semicolon (;) .
- Regardless of while condition, the do statements are executed at least one time. Due to this sometimes we are getting unwanted results [garbage values].
- Use do while whenever it is compulsory because of in do while the program is controlled at the bottom / last.

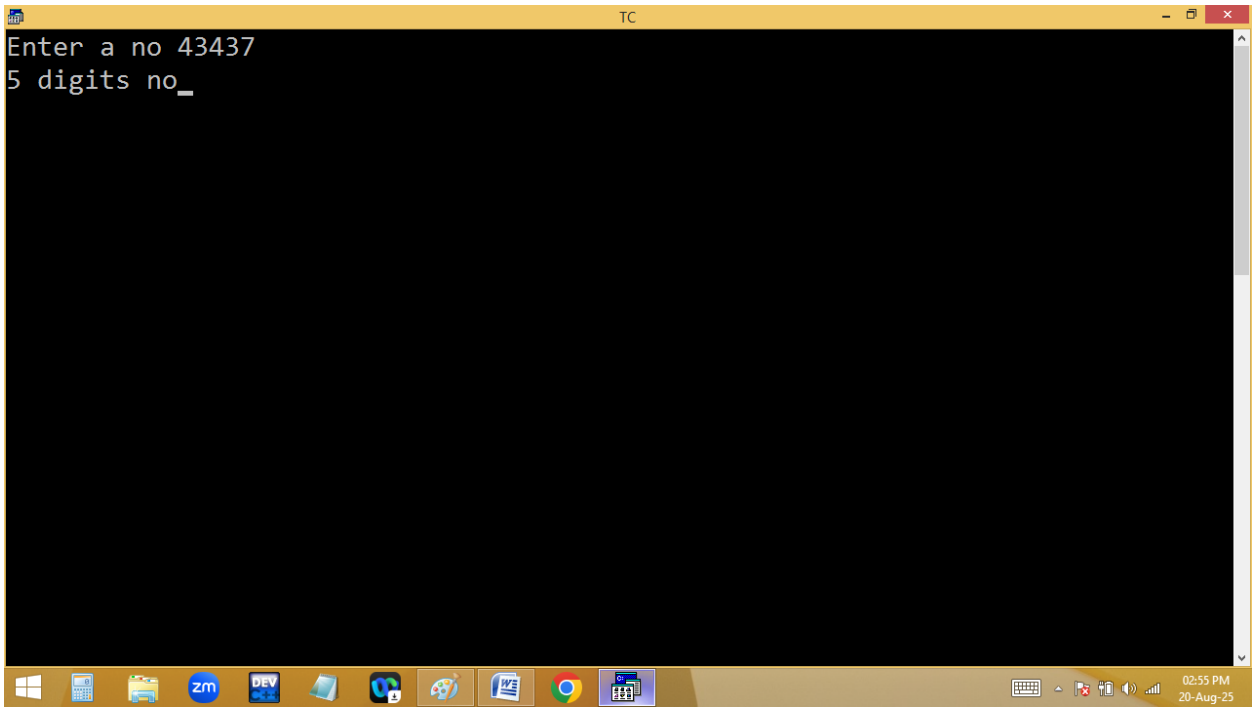

-------;
-------;
do
{
statement 1;
statement 2;
-------;
-------;
statement N;
}
while(condition);
-------;
-------;
true
false

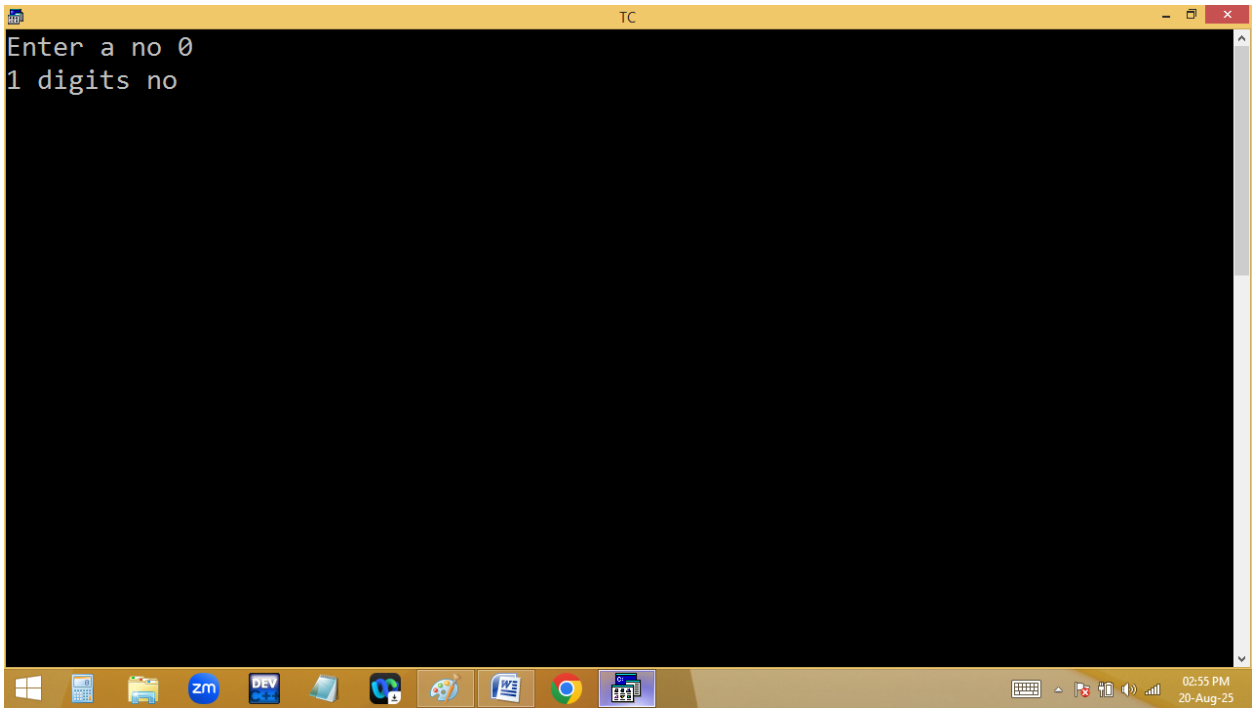

flow chart
start
statements
condition
true
false
stop

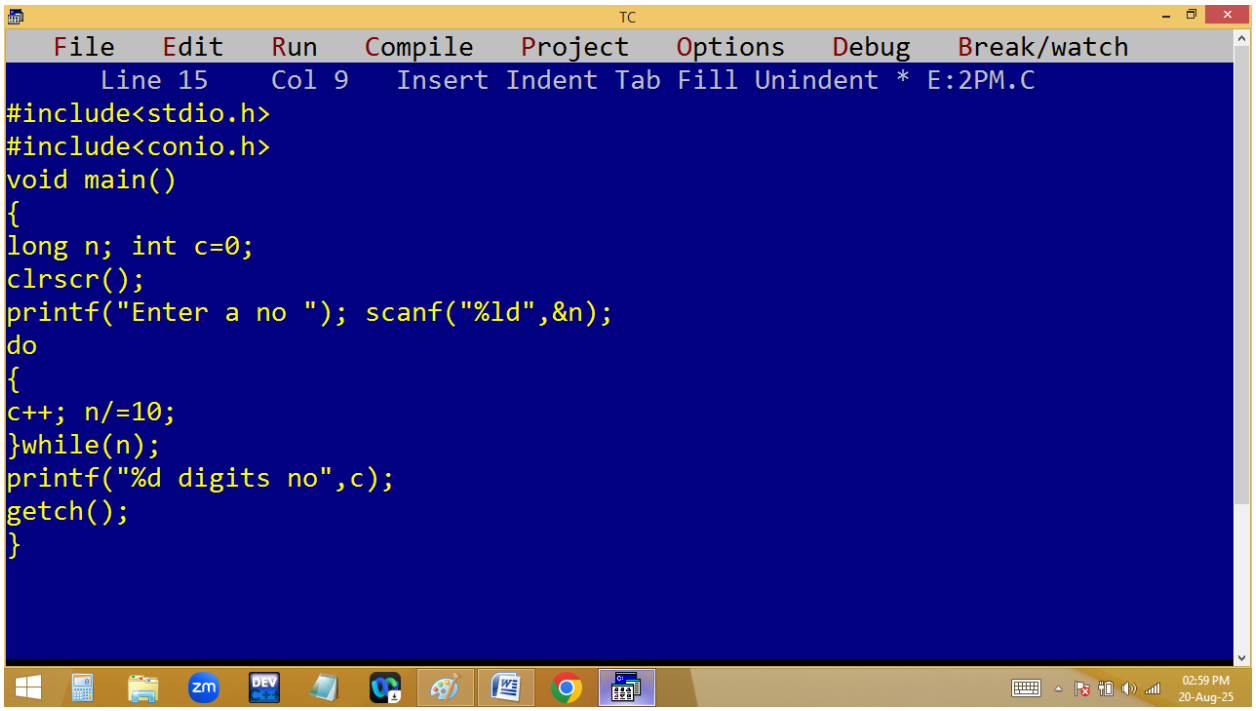
Using a loop?

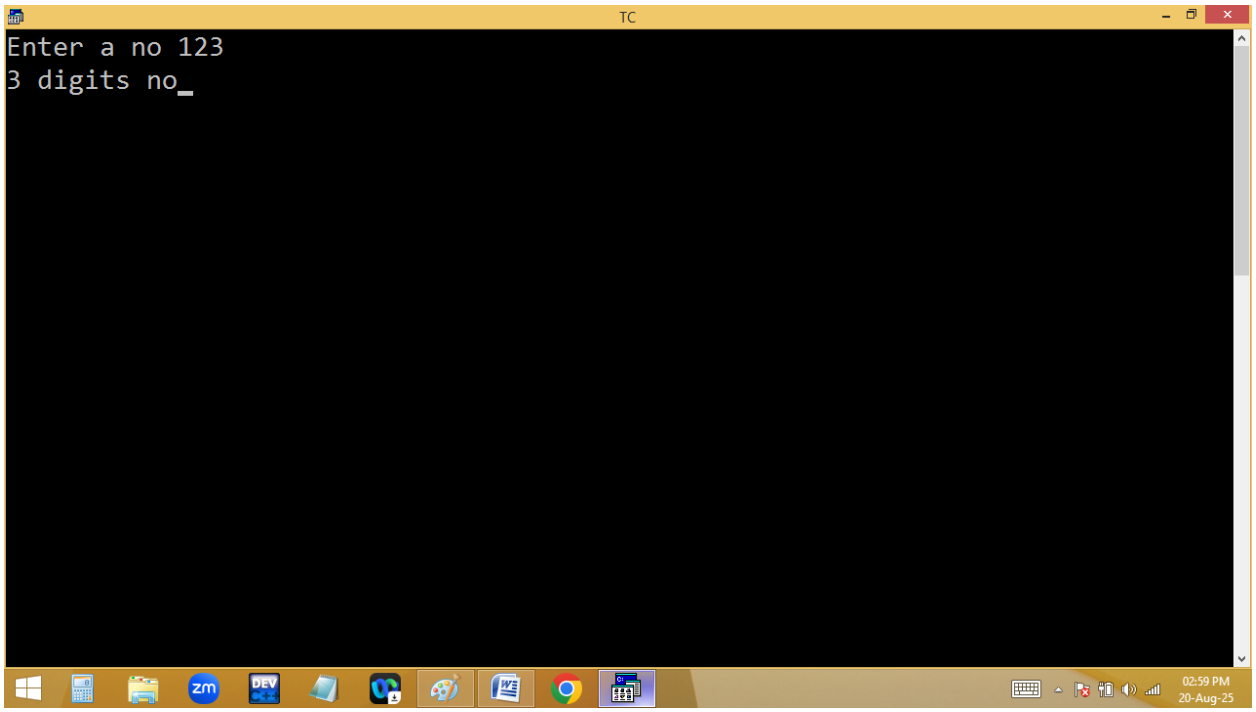

TC
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 14 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int c=0;
clrscr();
printf("Enter a no "); scanf("%ld",&n);
do
{
c++; n/=10;
}while(n!=0);
printf("%d digits no",c);
getch();
}

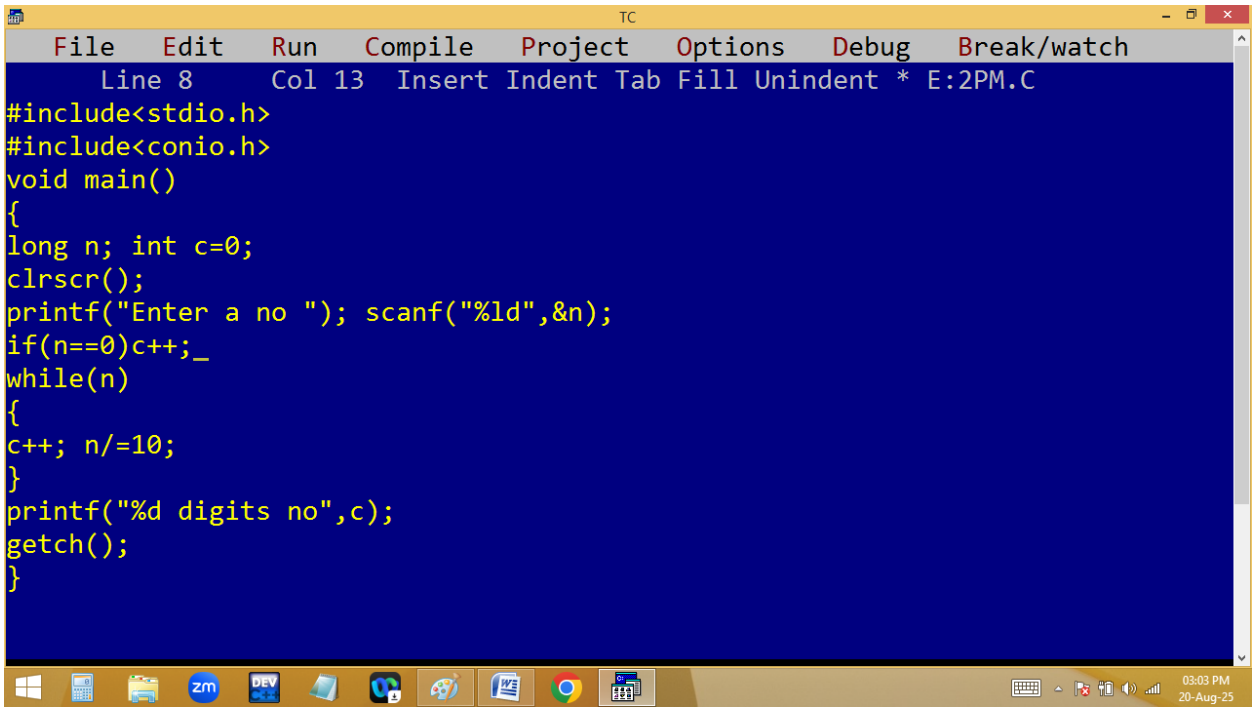

TC
Enter a no -123
3 digits no

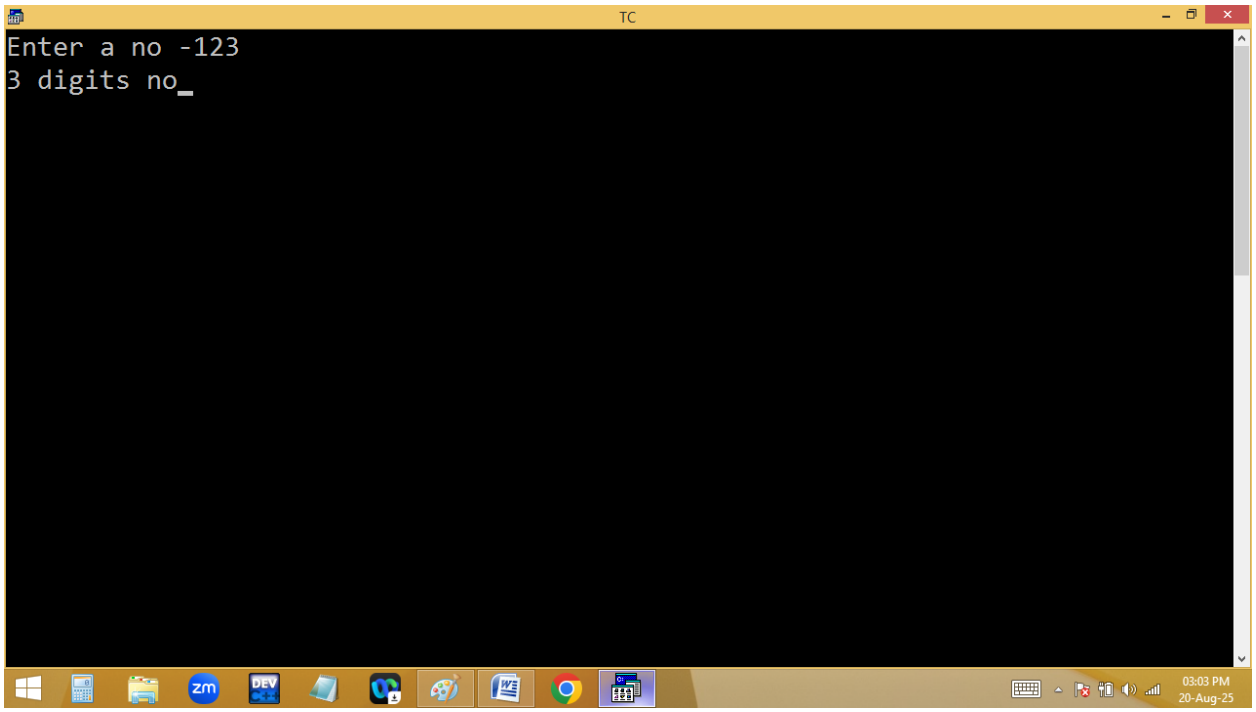

TC
Enter a no 43437
5 digits no
02:55 PM
20-Aug-25

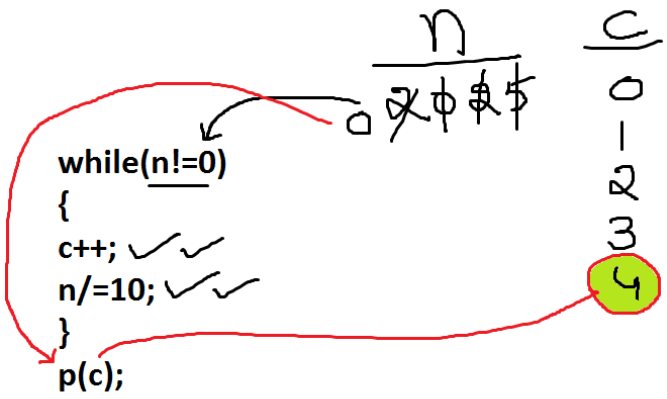

TC
Enter a no 0
1 digits no
02:55 PM
20-Aug-25


TC
File Edit Run Compile Project Options Debug Break/watch
Line 15 Col 9 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int c=0;
clrscr();
printf("Enter a no "); scanf("%ld",&n);
do
{
c++; n/=10;
}while(n);
printf("%d digits no",c);
getch();
}


TC
Enter a no 123
3 digits no


TC
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 13 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int c=0;
clrscr();
printf("Enter a no "); scanf("%ld",&n);
if(n==0)c++;_
while(n)
{
c++; n/=10;
}
printf("%d digits no",c);
getch();
}
03:03 PM
20-Aug-25

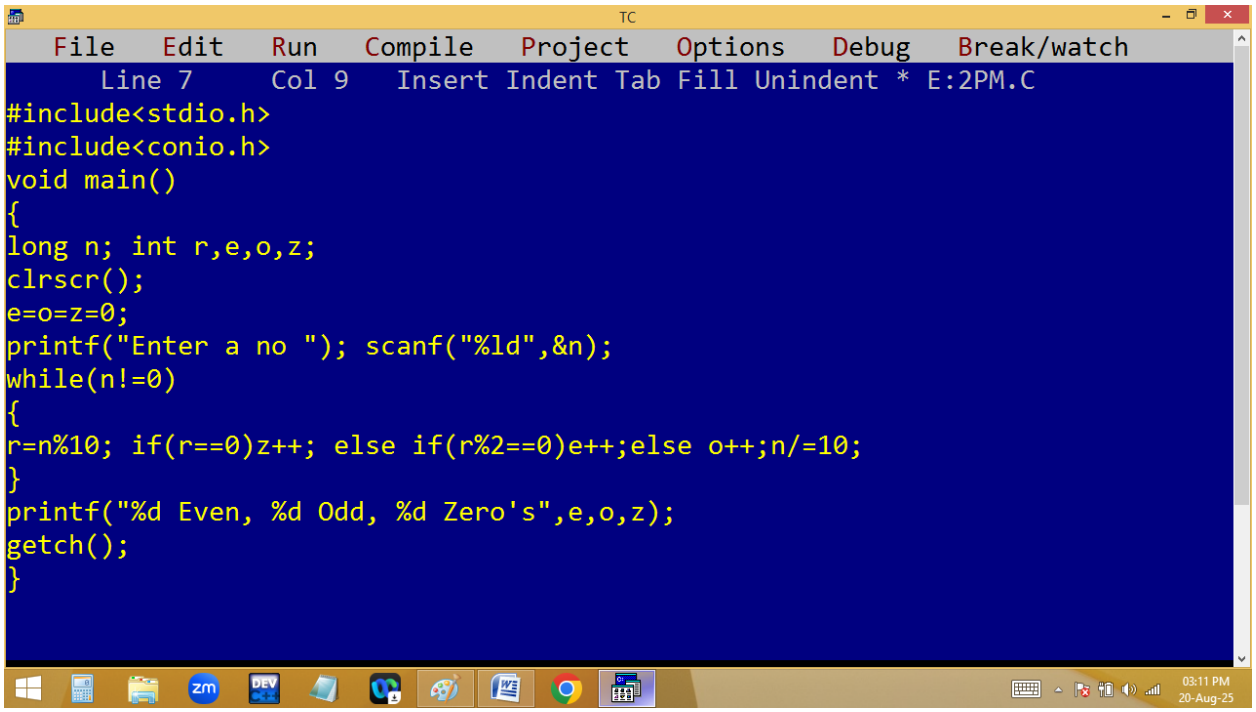

TC
Enter a no -123
3 digits no_
03:03 PM
20-Aug-25

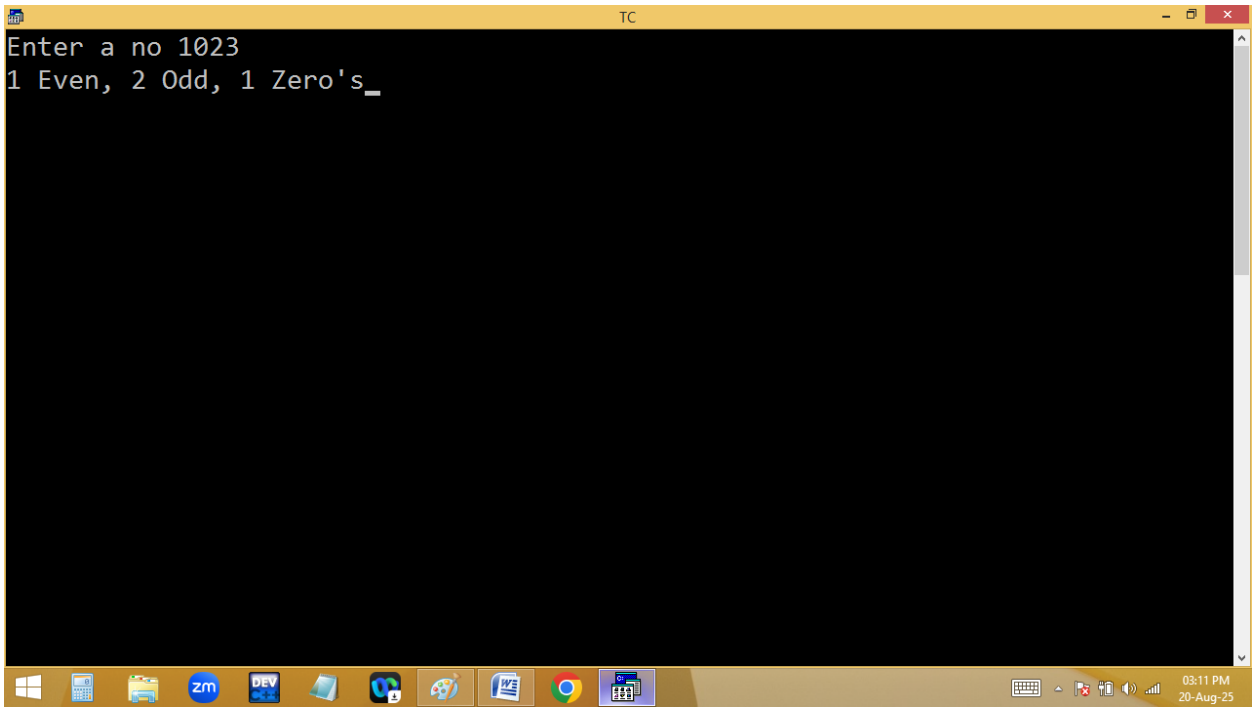


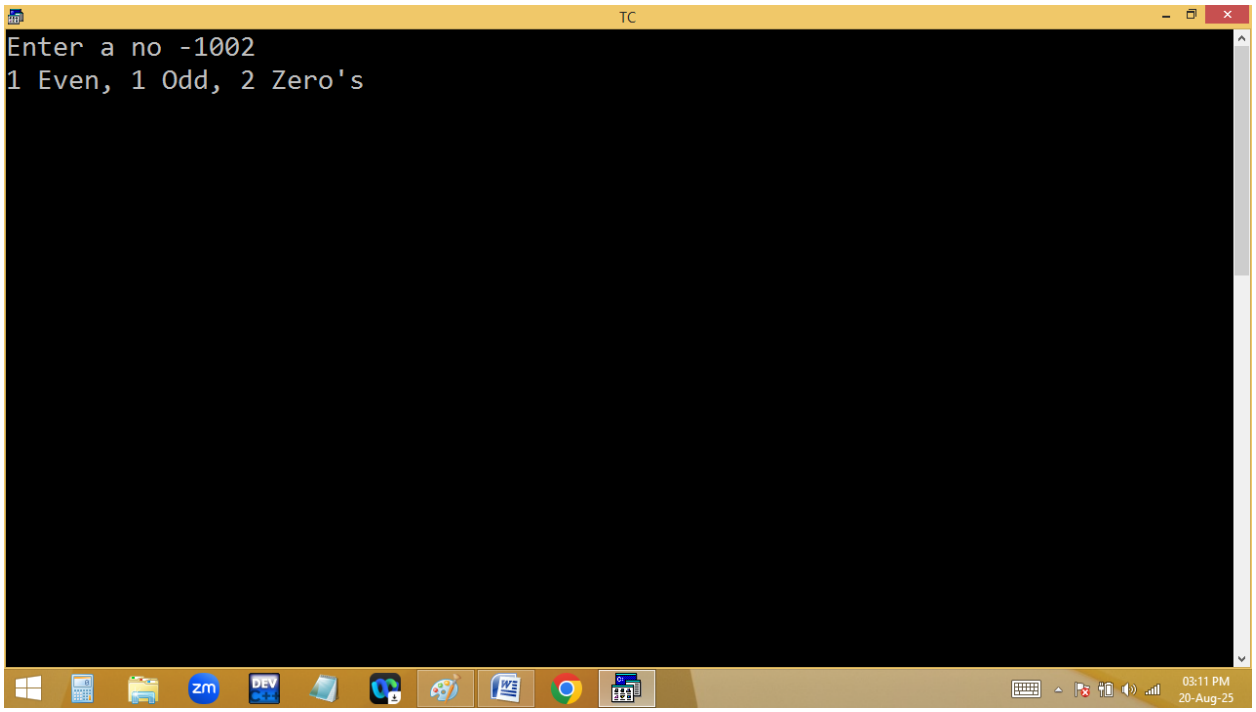
2025 is a 4 digits no

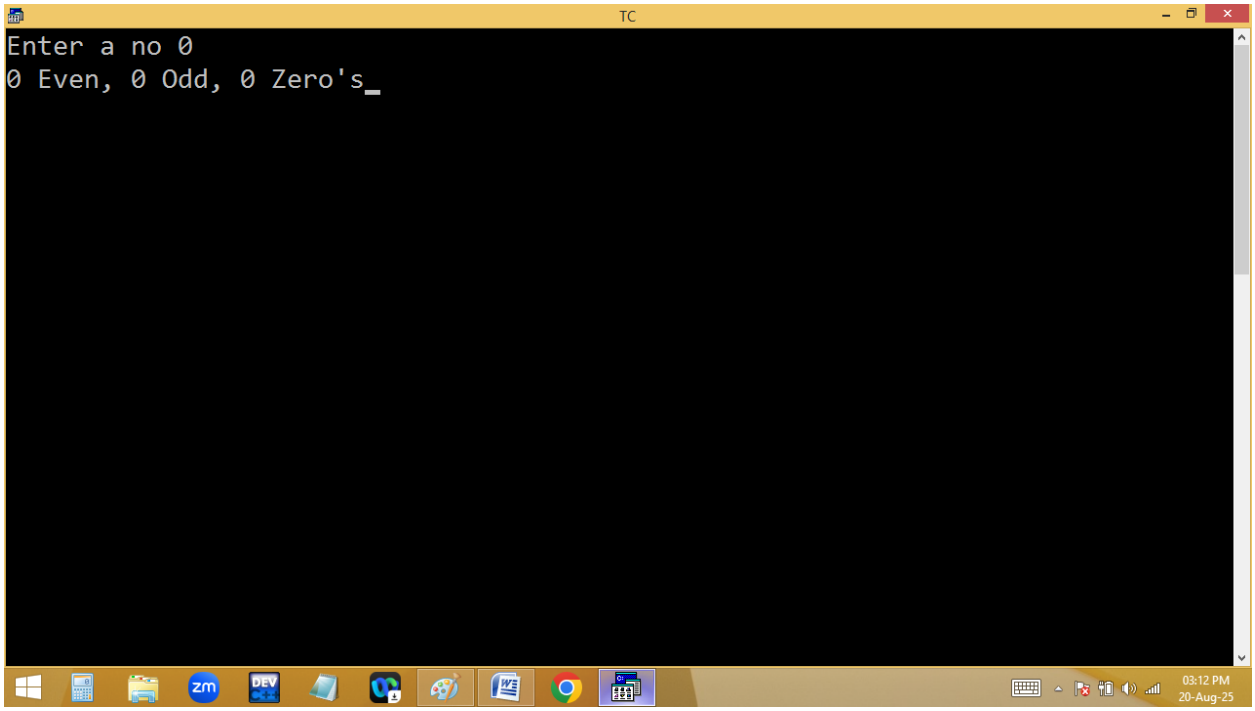
Finding no of even/odd/0's in given no?

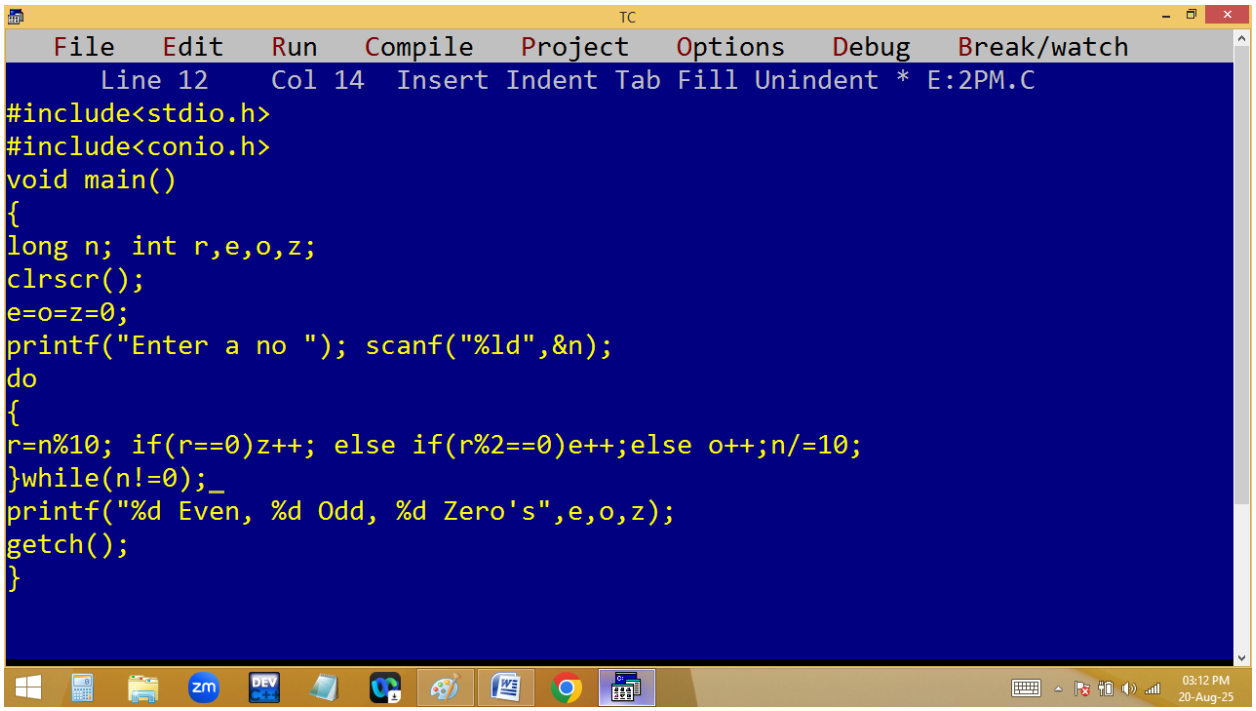
Eg: 1023 ➔ 1 even, 2 odd, 1 zero

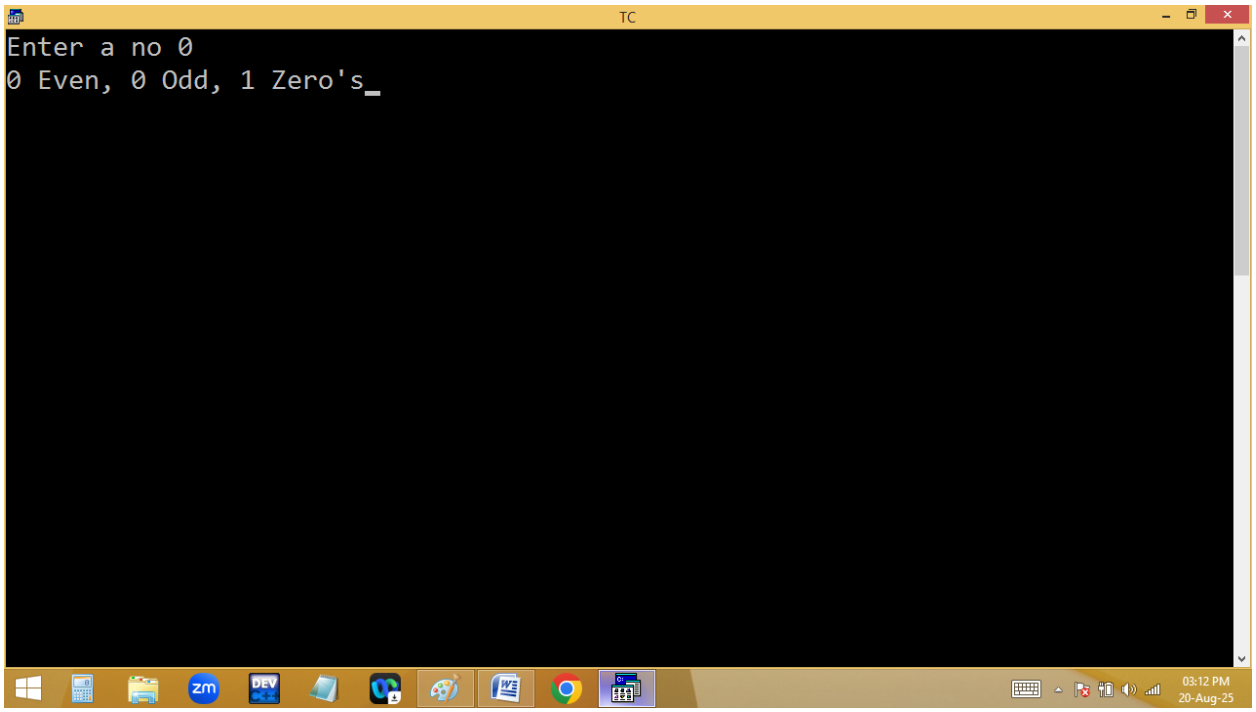


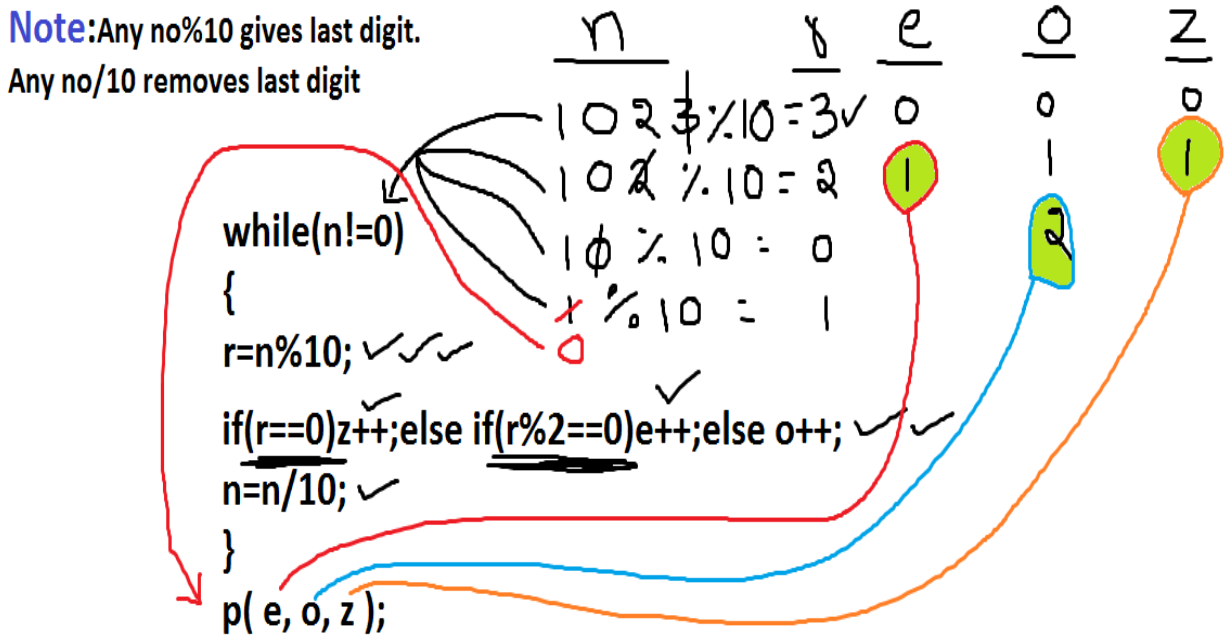

TC
Enter a no 1023
1 Even, 2 Odd, 1 Zero's
03:11 PM
20-Aug-25


TC
Enter a no -1002
1 Even, 1 Odd, 2 Zero's
03:11 PM
20-Aug-25


TC
Enter a no 0
0 Even, 0 Odd, 0 Zero's
03:12 PM
20-Aug-25

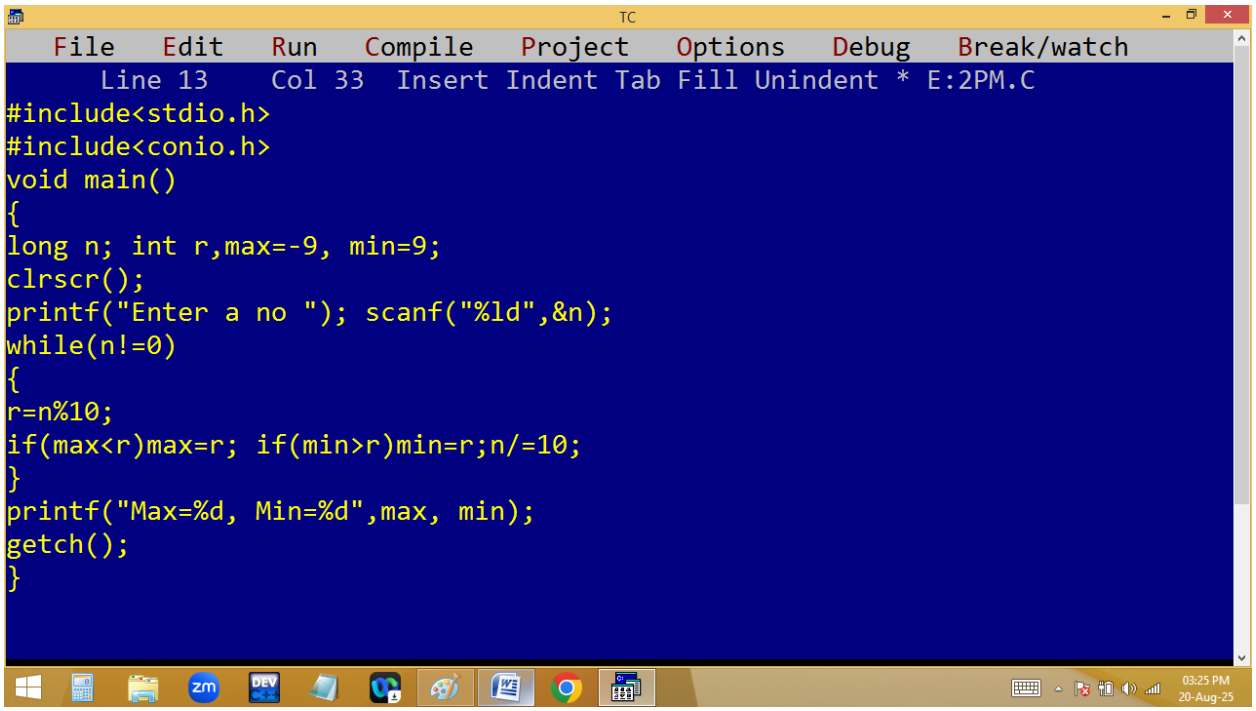

TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 14 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int r,e,o,z;
clrscr();
e=o=z=0;
printf("Enter a no "); scanf("%ld",&n);
do
{
r=n%10; if(r==0)z++; else if(r%2==0)e++;else o++;n/=10;
}while(n!=0);
printf("%d Even, %d Odd, %d Zero's",e,o,z);
getch();
}

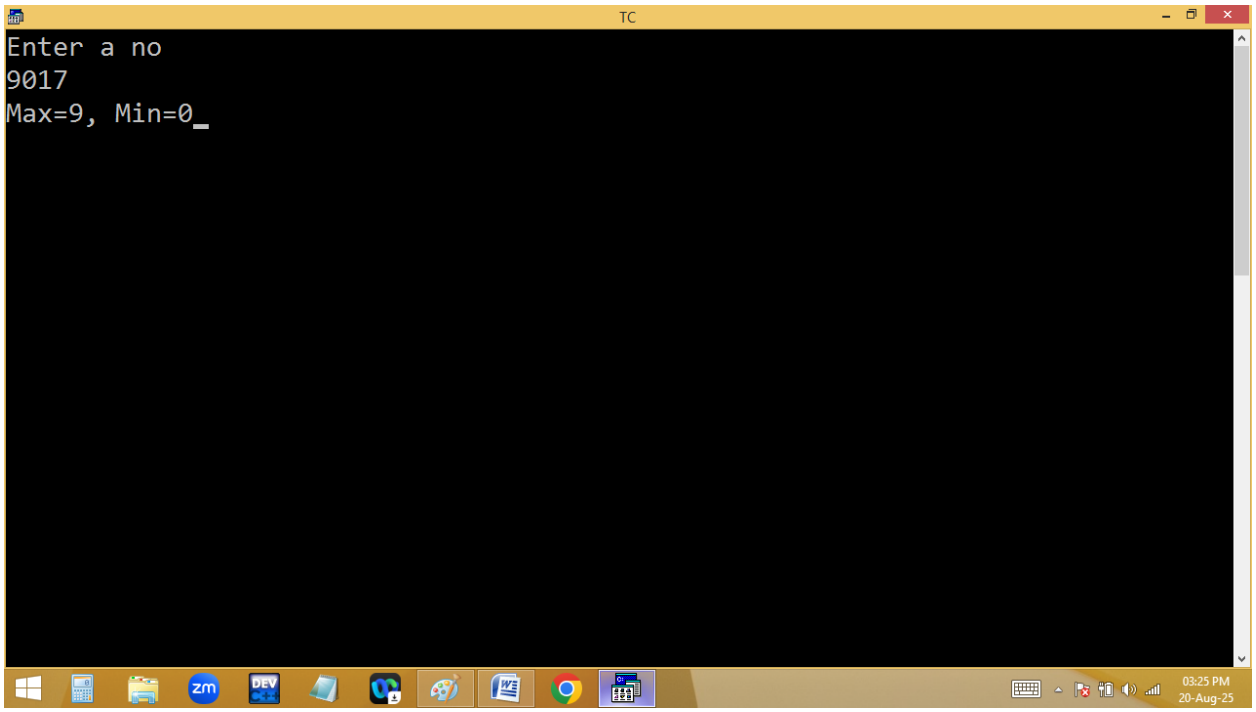

TC
Enter a no 0
0 Even, 0 Odd, 1 Zero's

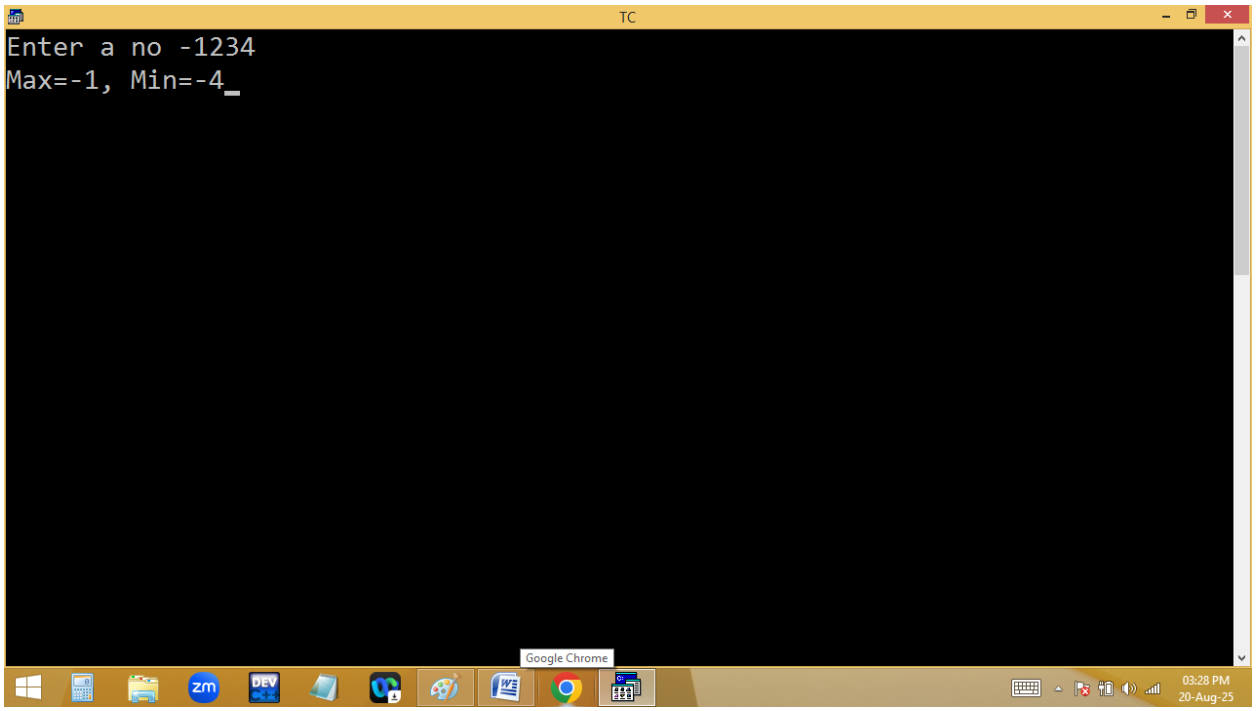


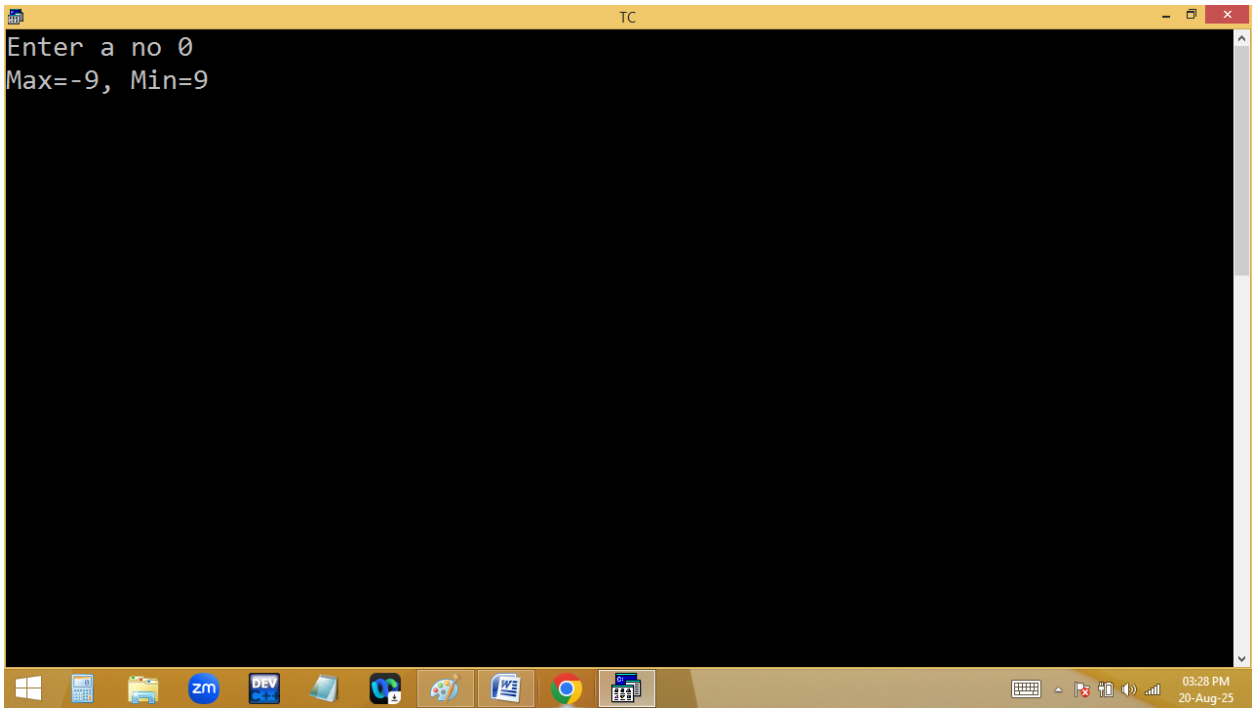
Finding max, min digits in given no?

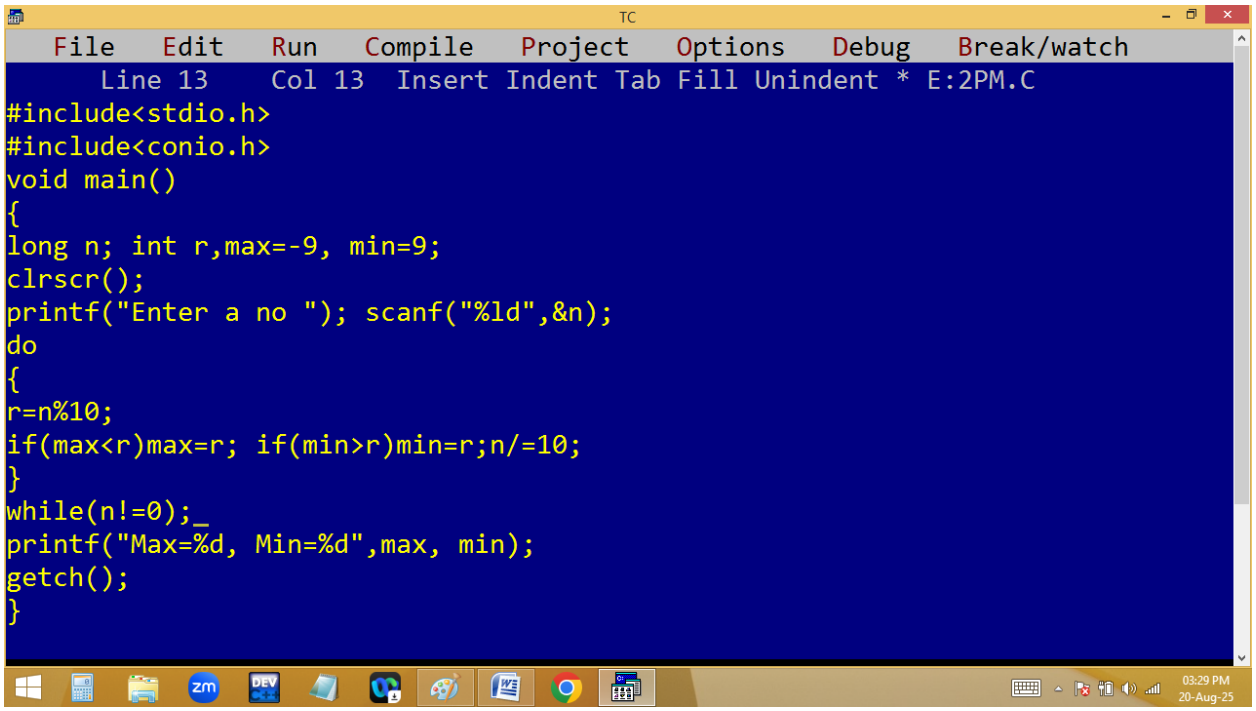
Eg: 920135 ➔ 9 max, 0 min

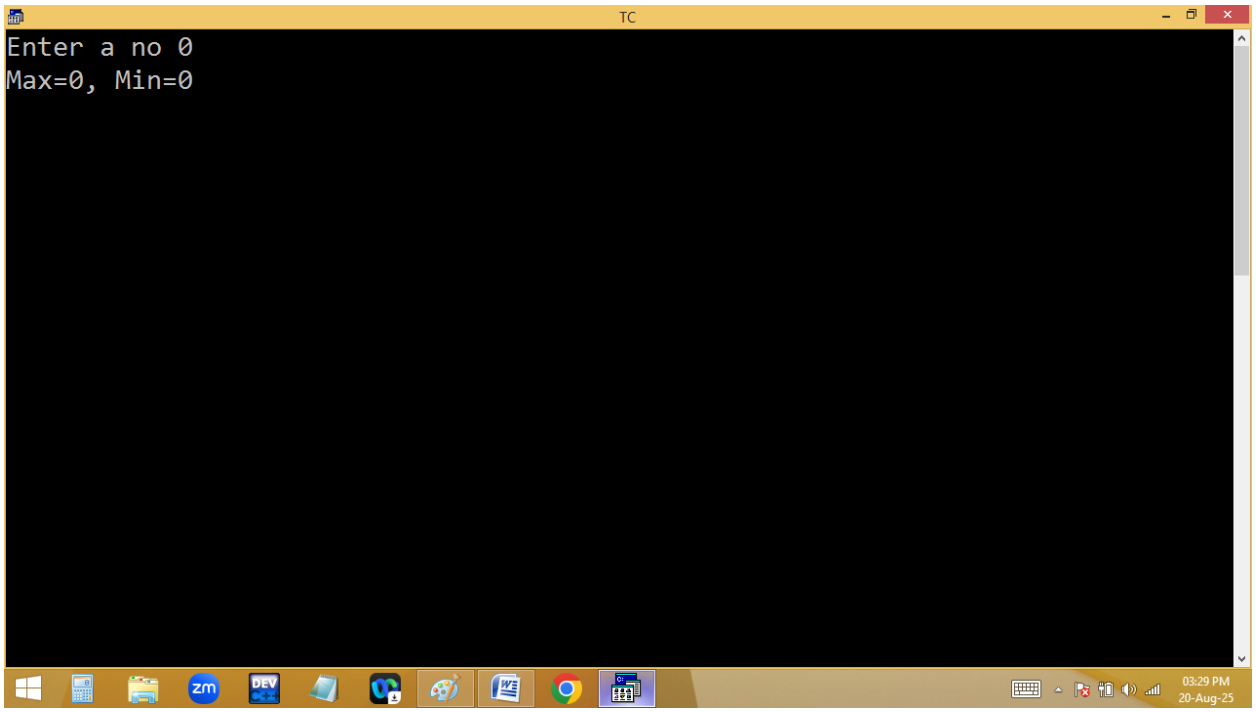

TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 33 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int r,max=-9, min=9;
clrscr();
printf("Enter a no "); scanf("%ld",&n);
while(n!=0)
{
r=n%10;
if(max<r)max=r; if(min>r)min=r;n/=10;
}
printf("Max=%d, Min=%d",max, min);
getch();
}

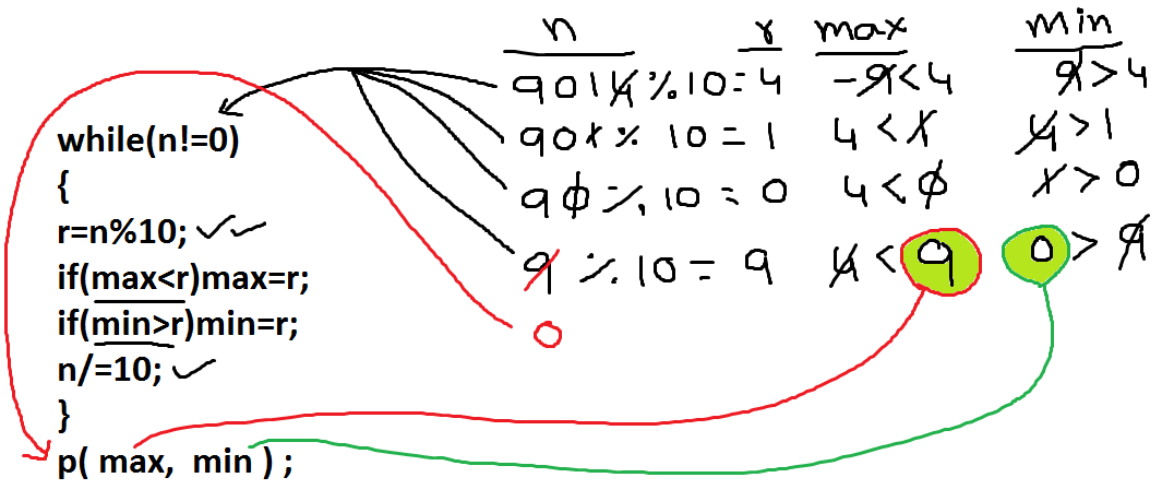

TC
Enter a no
9017
Max=9, Min=0


TC
Enter a no -1234
Max=-1, Min=-4
Google Chrome
03:28 PM
20-Aug-25

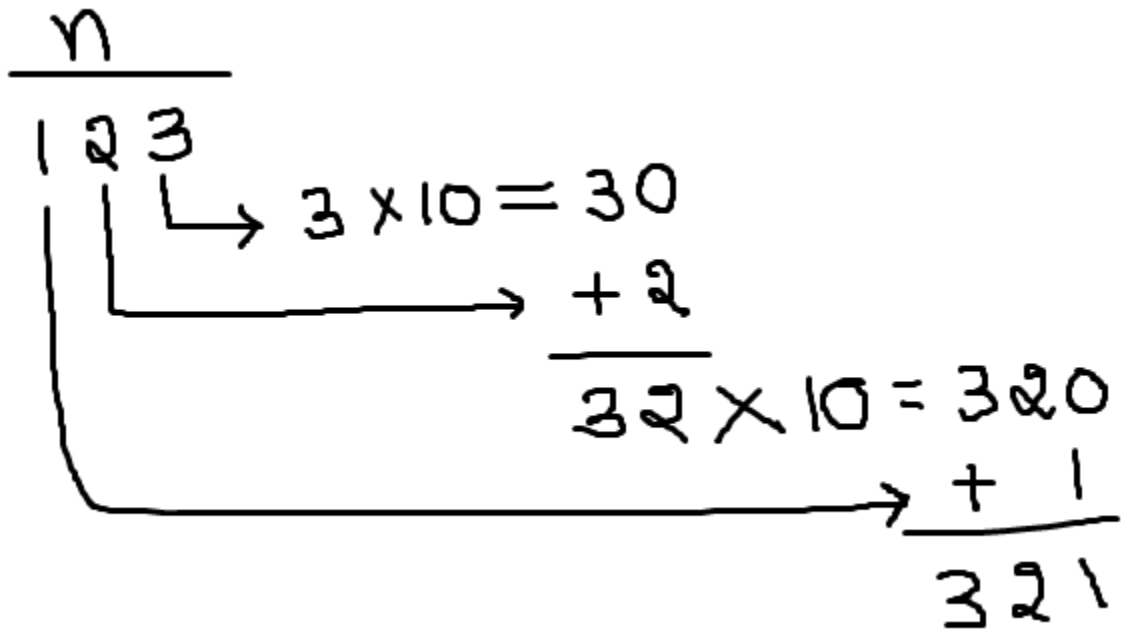

TC
Enter a no 0
Max=-9, Min=9
03:28 PM
20-Aug-25

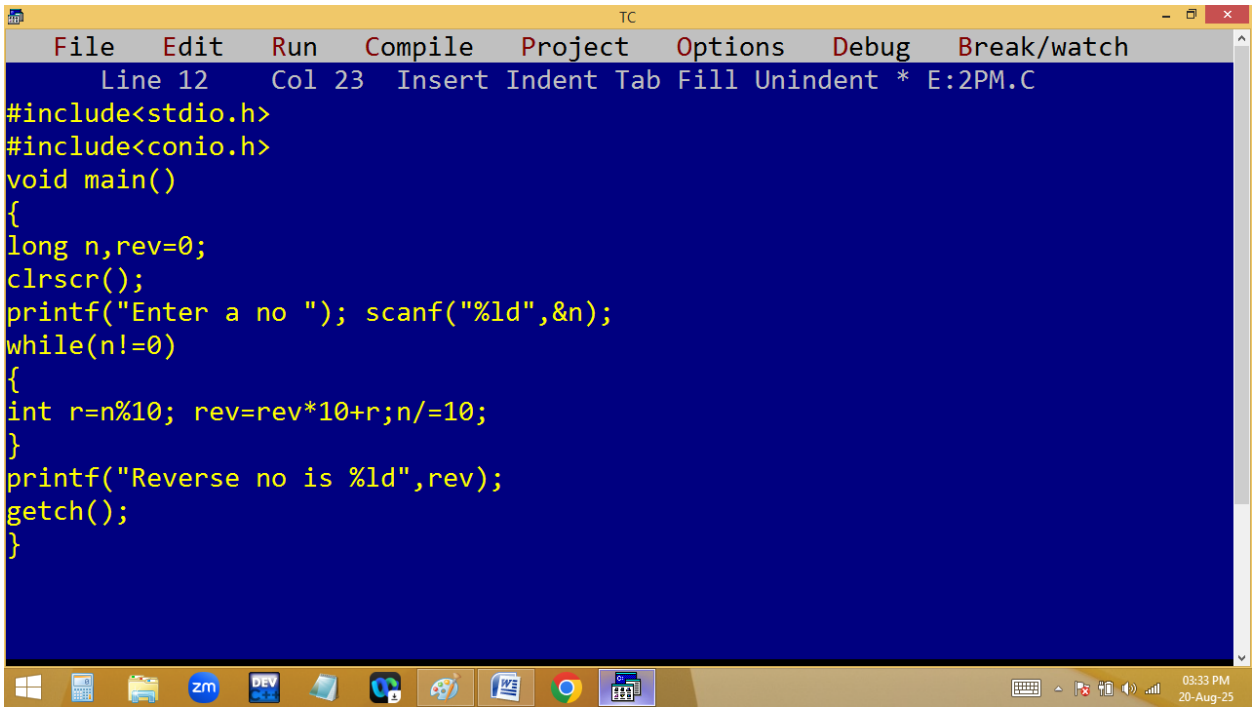

TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 13 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int r,max=-9, min=9;
clrscr();
printf("Enter a no "); scanf("%ld",&n);
do
{
r=n%10;
if(max<r)max=r; if(min>r)min=r;n/=10;
}
while(n!=0);
printf("Max=%d, Min=%d",max, min);
getch();
}

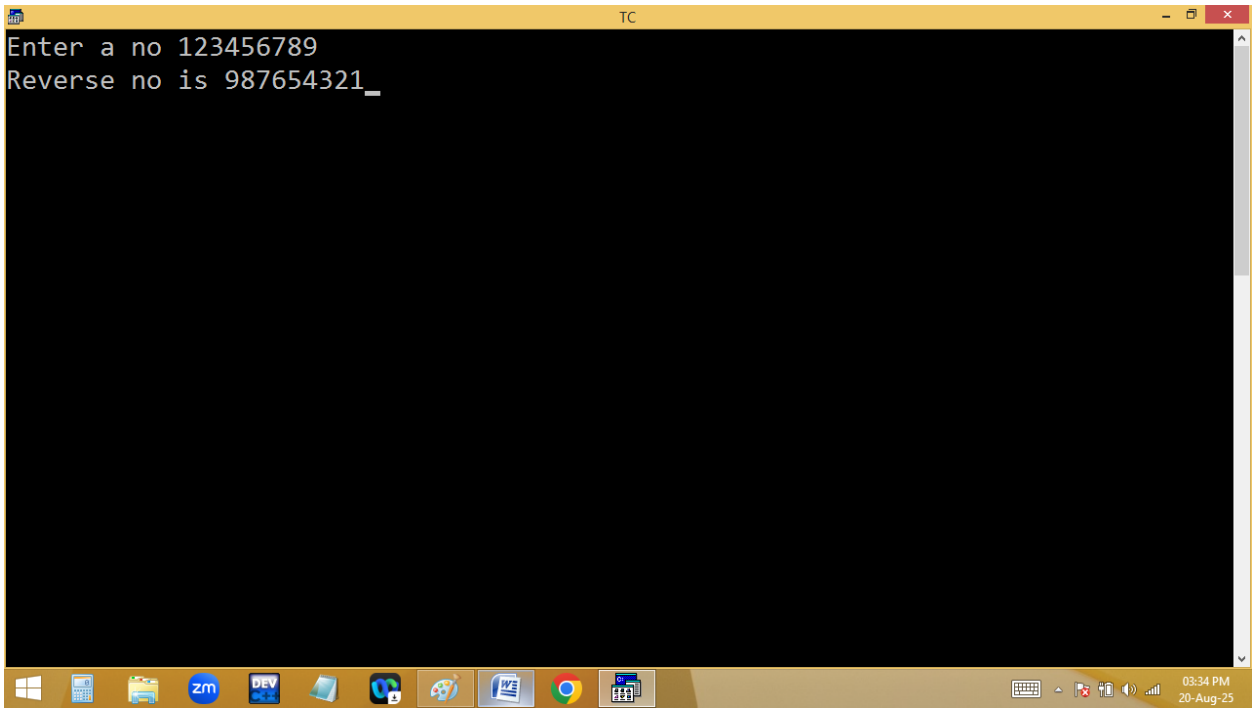

TC
Enter a no 0
Max=0, Min=0

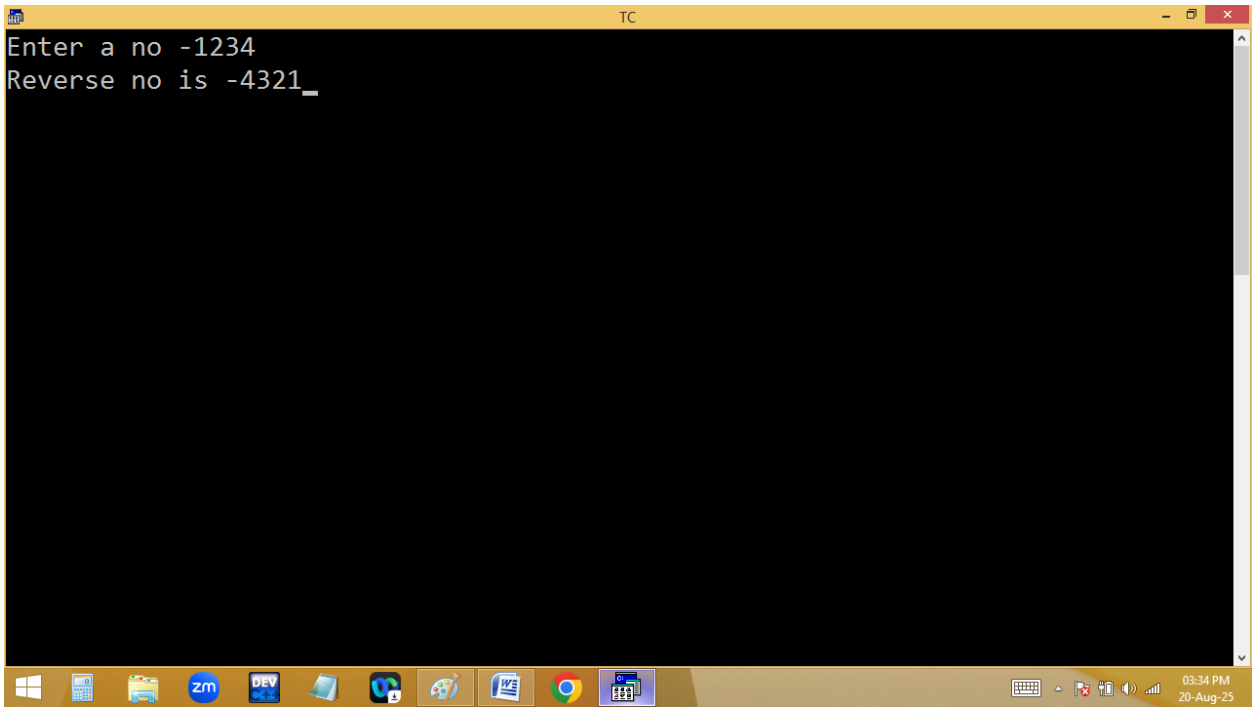

while(n!=0)
{
r=n%10;
if(max<r)max=r;
if(min>r)min=r;
n/=10;
}
p(max, min) ;
n
r
max
min
0

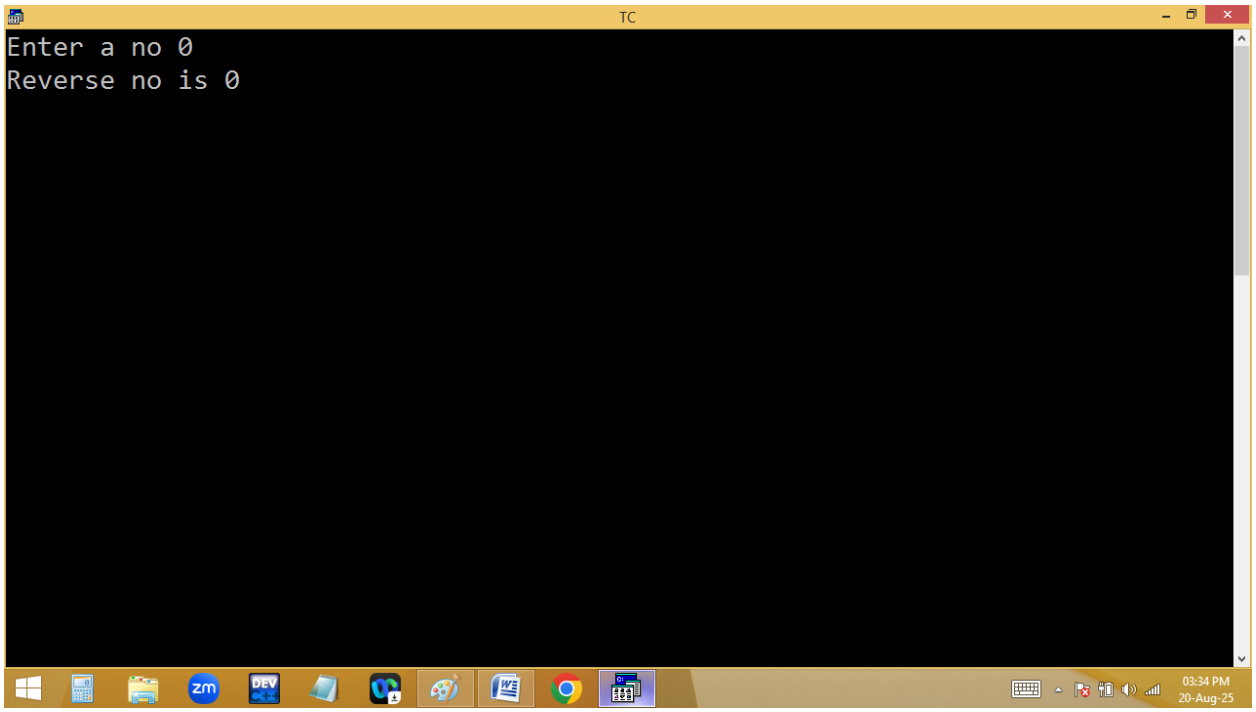
Reverse no?

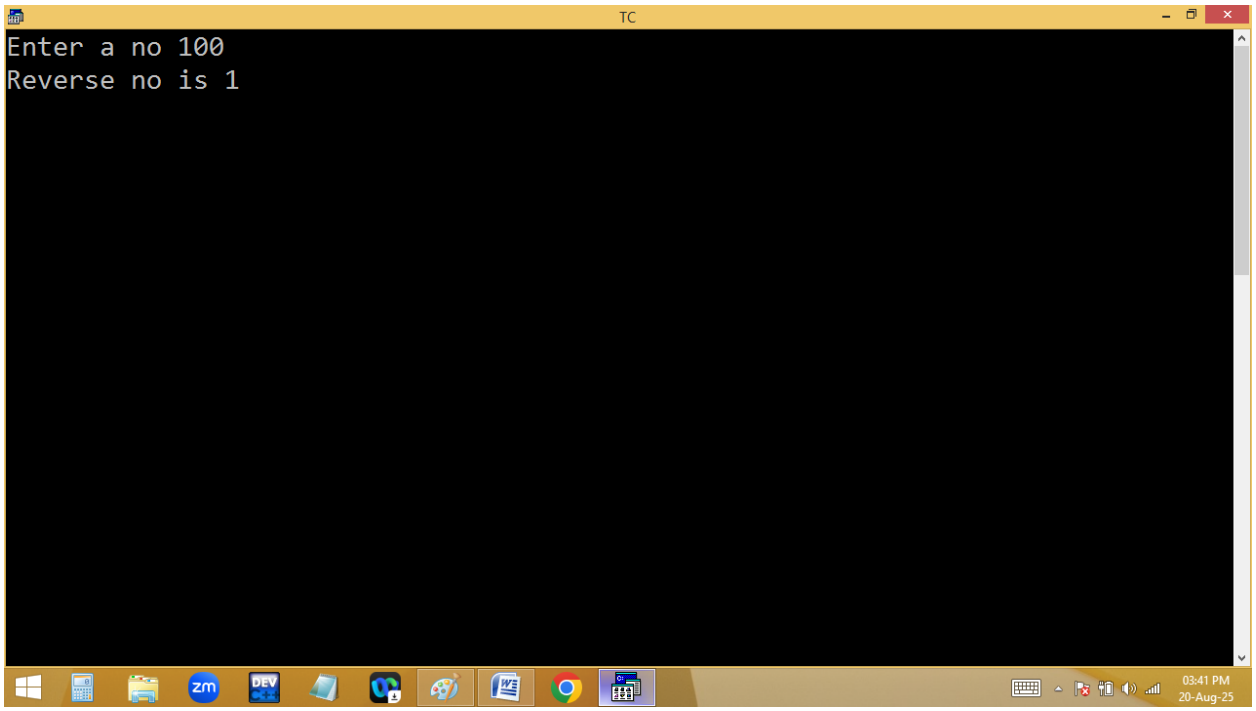

n
123
3 x 10 = 30
+ 2
32 x 10 = 320
+ 1
321

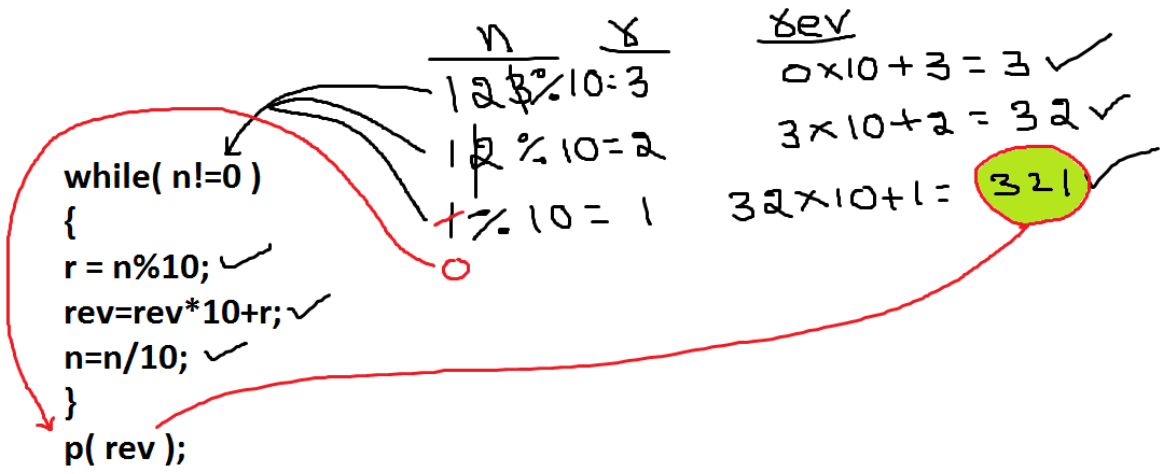

TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 23 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n,rev=0;
clrscr();
printf("Enter a no "); scanf("%ld",&n);
while(n!=0)
{
int r=n%10; rev=rev*10+r;n/=10;
}
printf("Reverse no is %ld",rev);
getch();
}

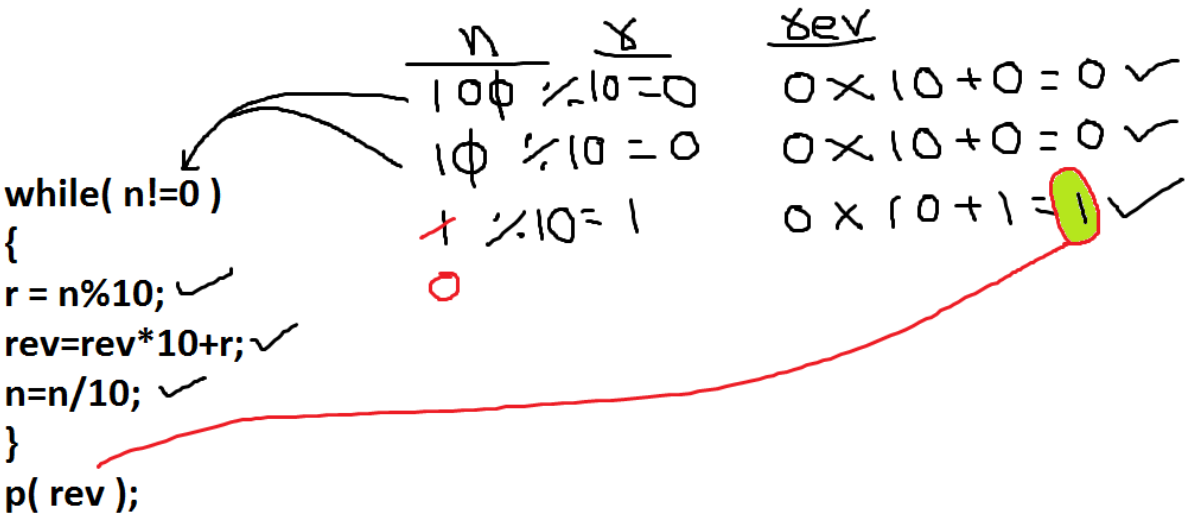

TC
Enter a no 123456789
Reverse no is 987654321


TC
Enter a no -1234
Reverse no is -4321
03:34 PM
20-Aug-25

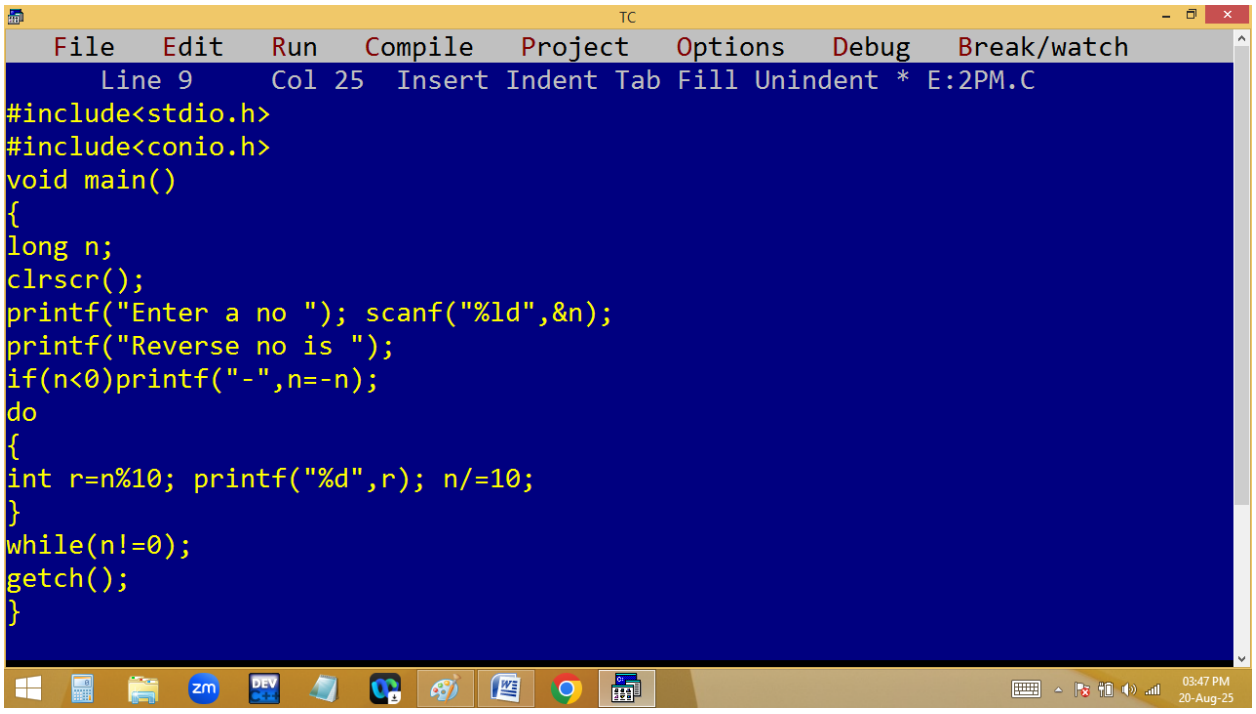

TC
Enter a no 0
Reverse no is 0
03:34 PM
20-Aug-25

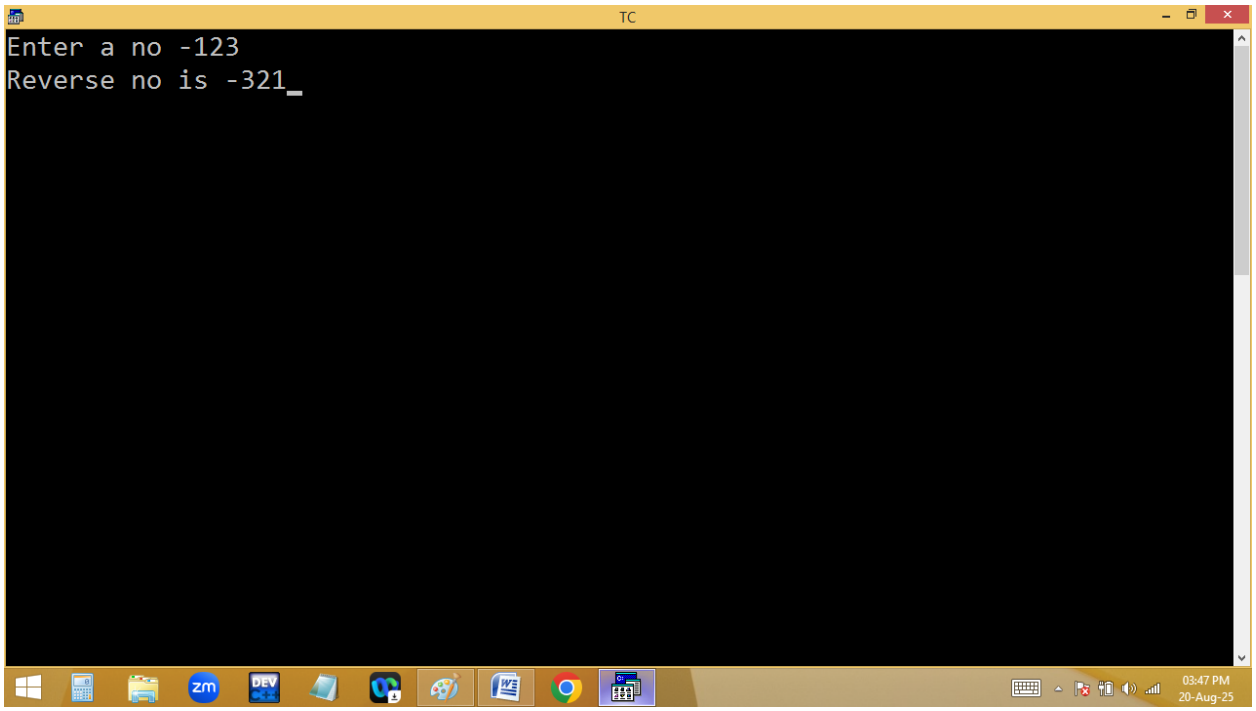

TC
Enter a no 100
Reverse no is 1

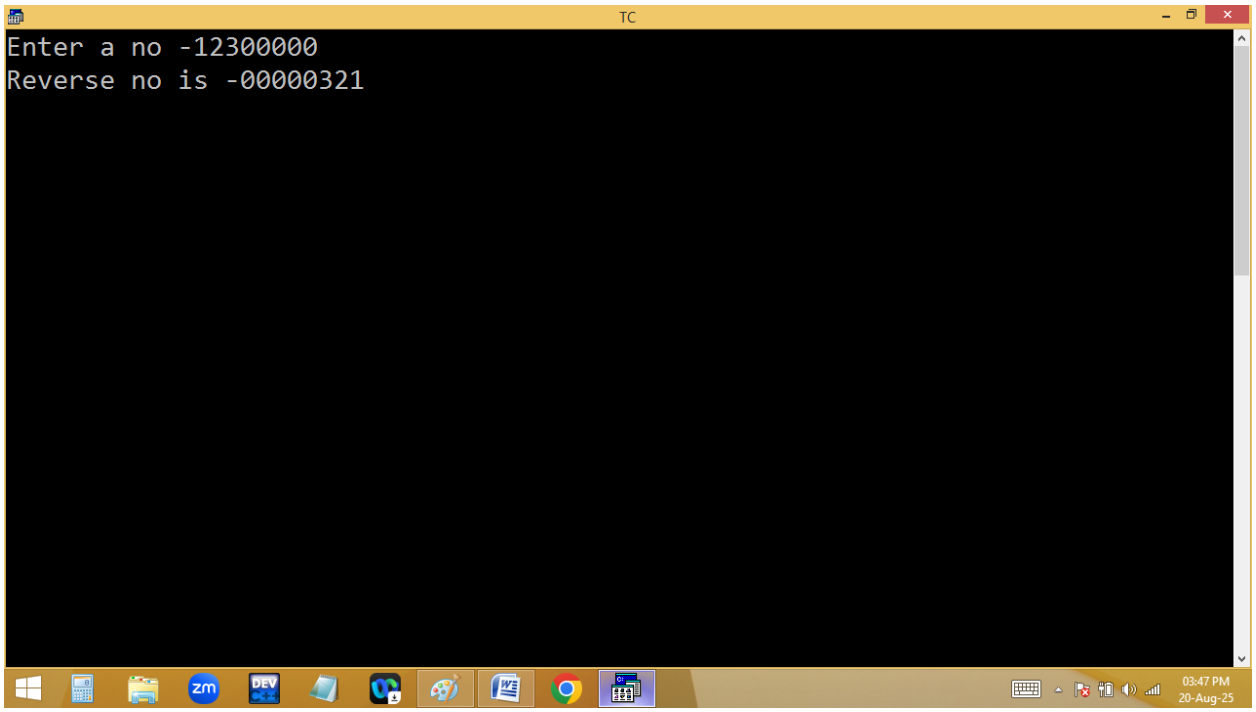

while(n!=0)
{
r = n%10;
rev=rev*10+r;
n=n/10;
}
p(rev);
n
r
123 % 10 = 3
12 % 10 = 2
1 % 10 = 1
rev
0×10+3 = 3
3×10+2 = 32
32×10+1 = 321

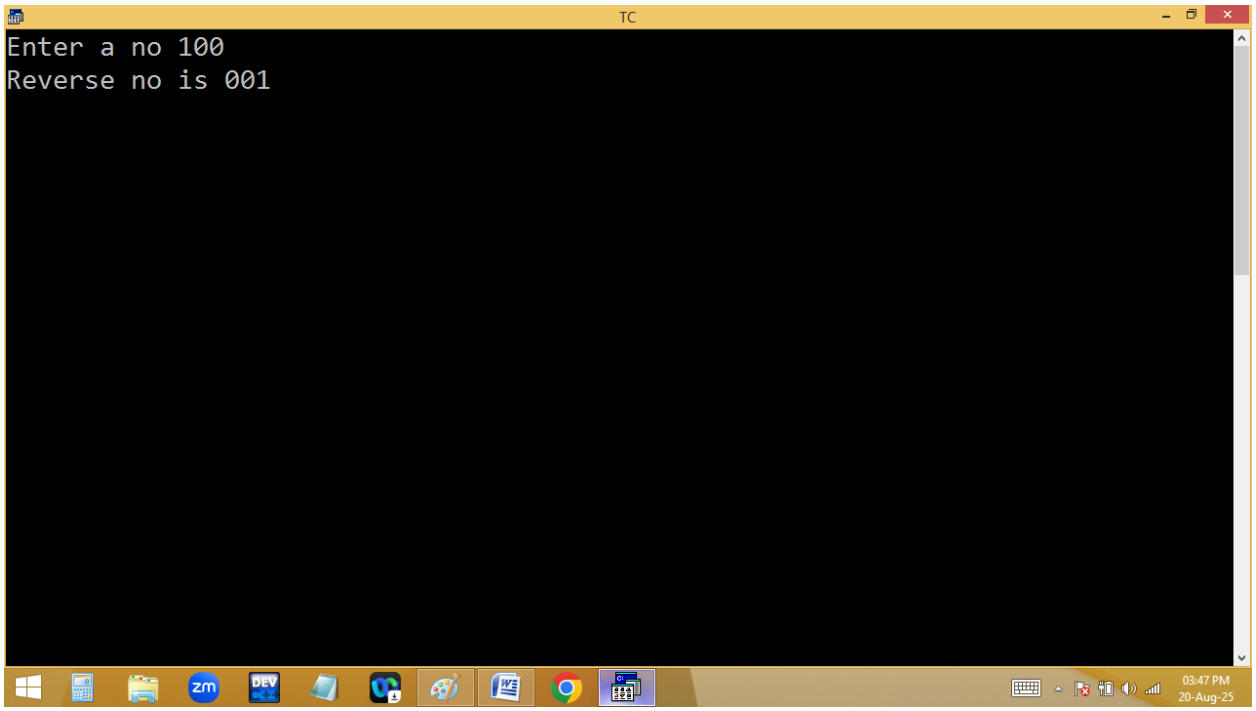


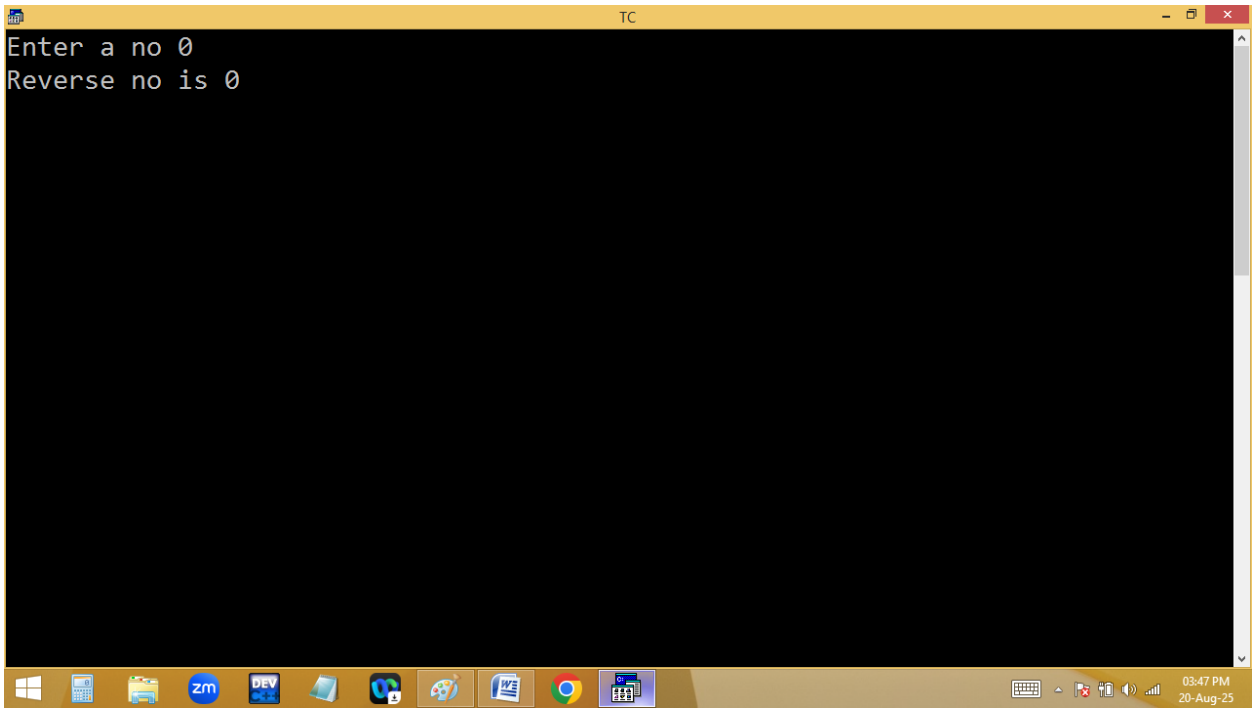
Print 100 as 001?

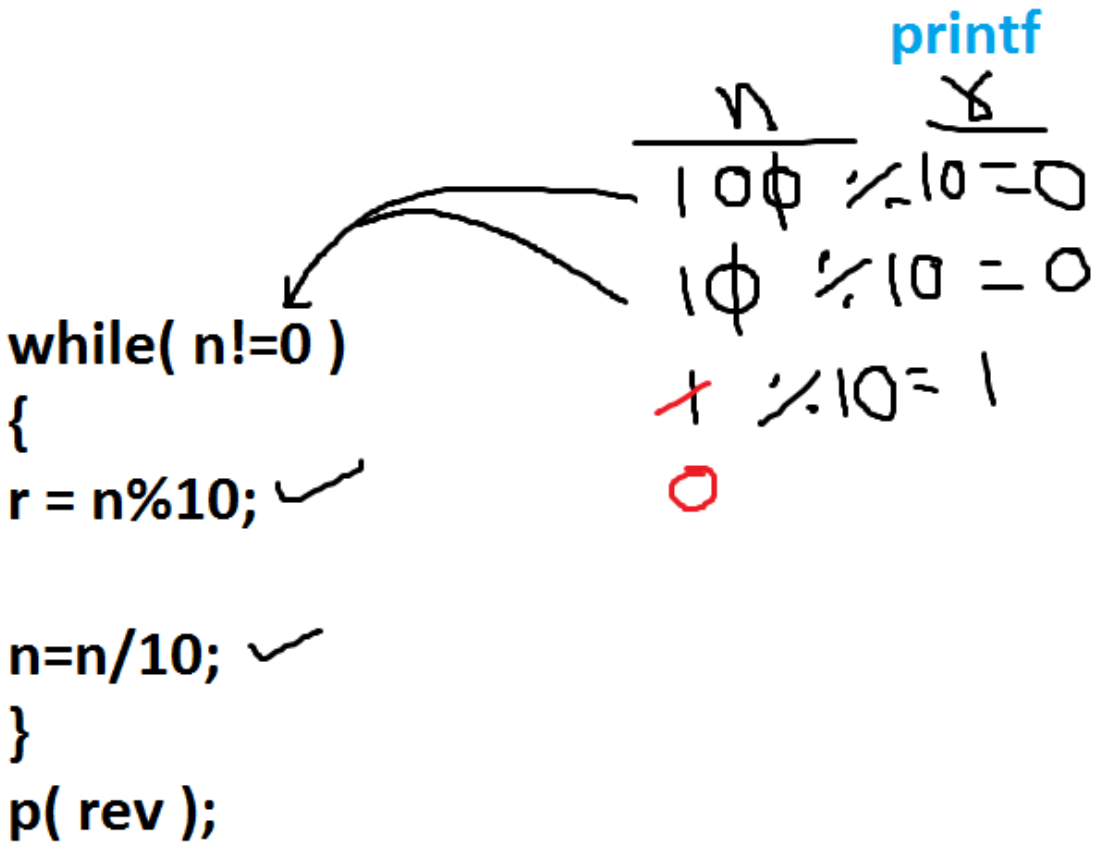



TC
Enter a no -123
Reverse no is -321
03:47 PM
20-Aug-25


TC
Enter a no -12300000
Reverse no is -00000321
03:47 PM
20-Aug-25


TC
Enter a no 100
Reverse no is 001
03:47 PM
20-Aug-25


TC
Enter a no 0
Reverse no is 0
03:47 PM
20-Aug-25



Home work?

1. Finding palindrome no?

   Given no reverse no both are same

2. 102 ➔ One Zero Two
3. Printing 1st and last digits of given no
4. 12345678 ➔ 78 56 34 12