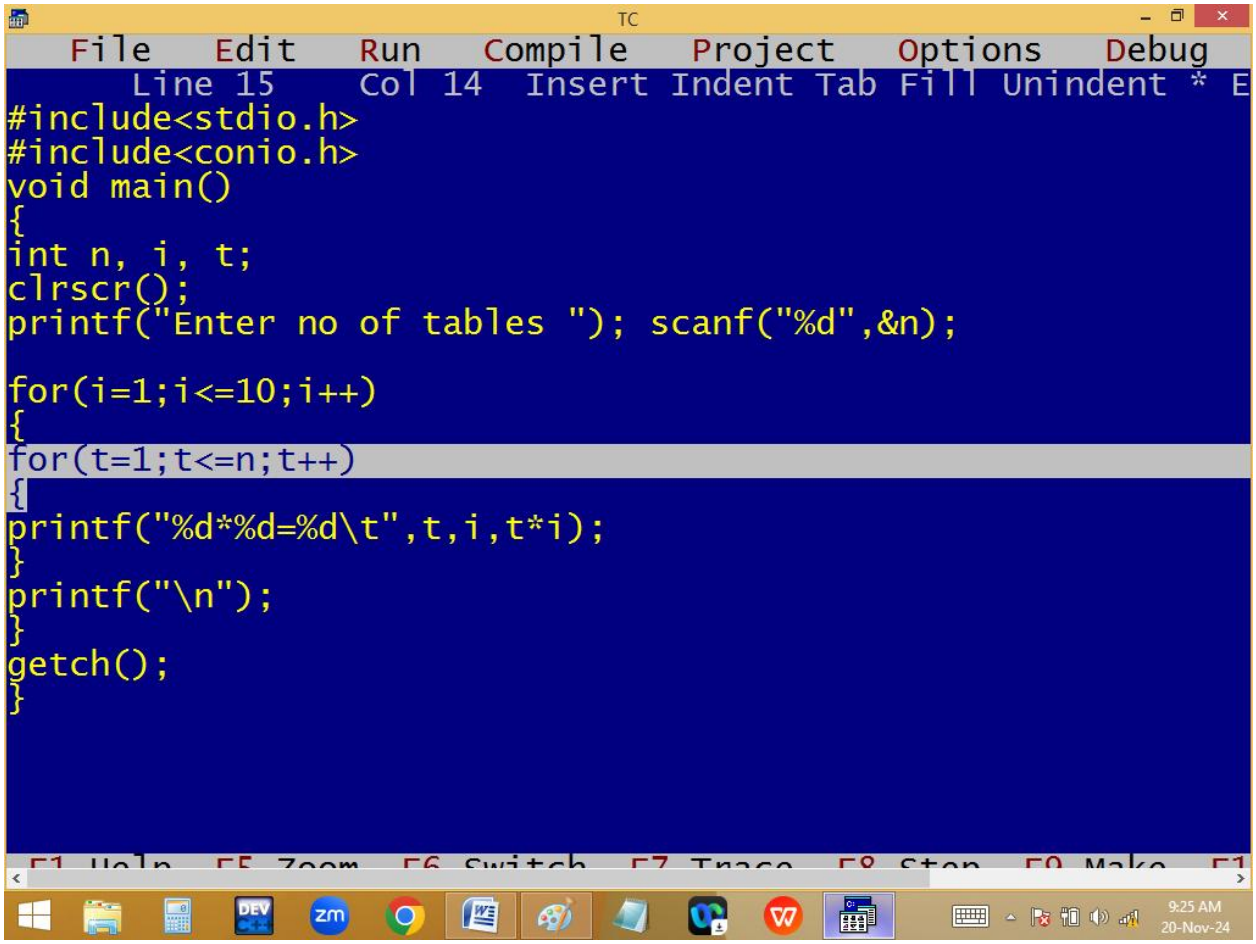
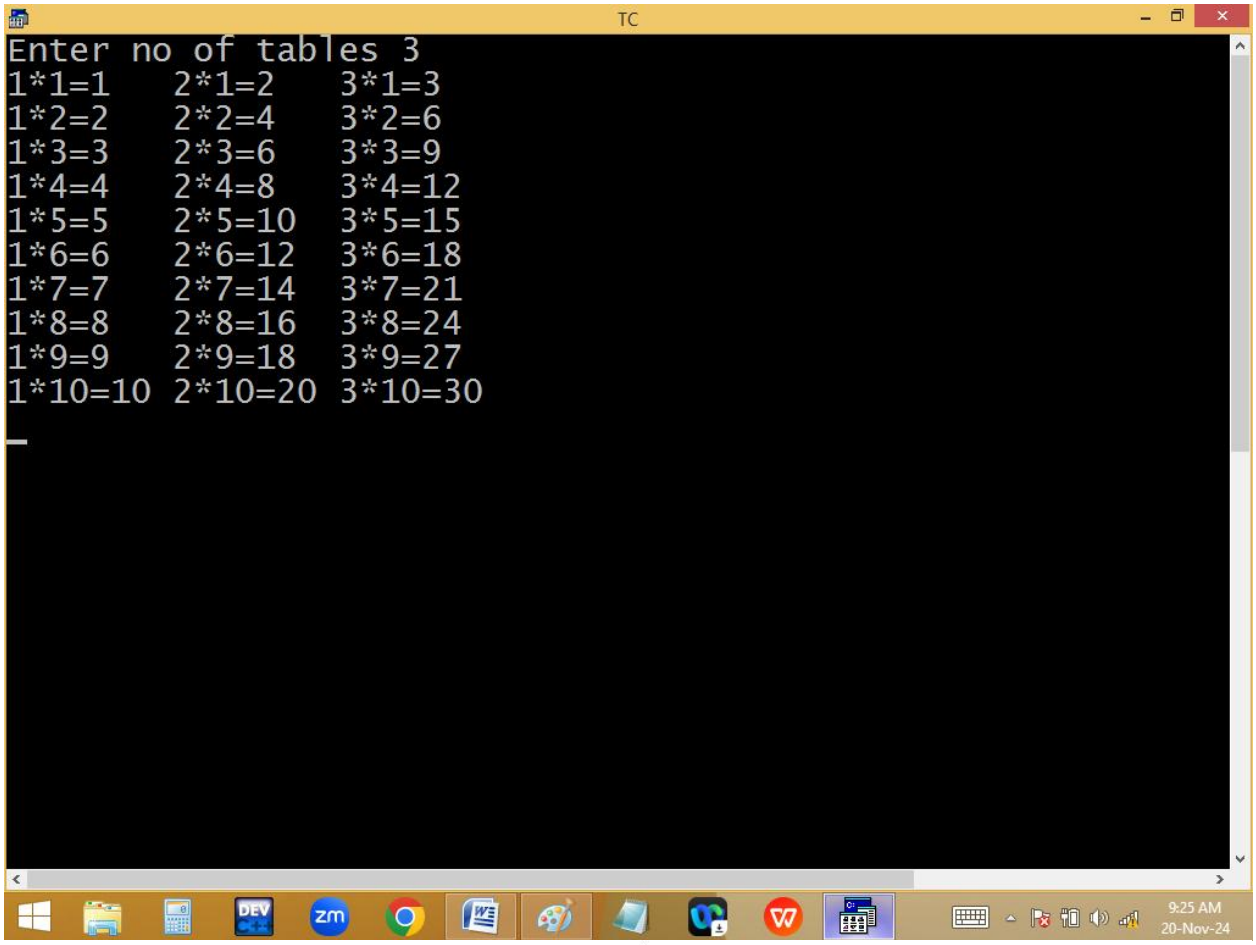
Tables side by side:






```
for( i=1; i<=10; i++ )
{
for( t=1; t<=3; t++ )
{
p(t*i\t");
}
p("\n");
}
```

t i

1 2 3 4 x 1

1 2 3 4 * 2

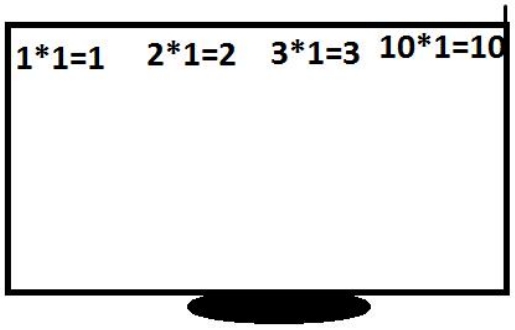
1 x 3

-

-

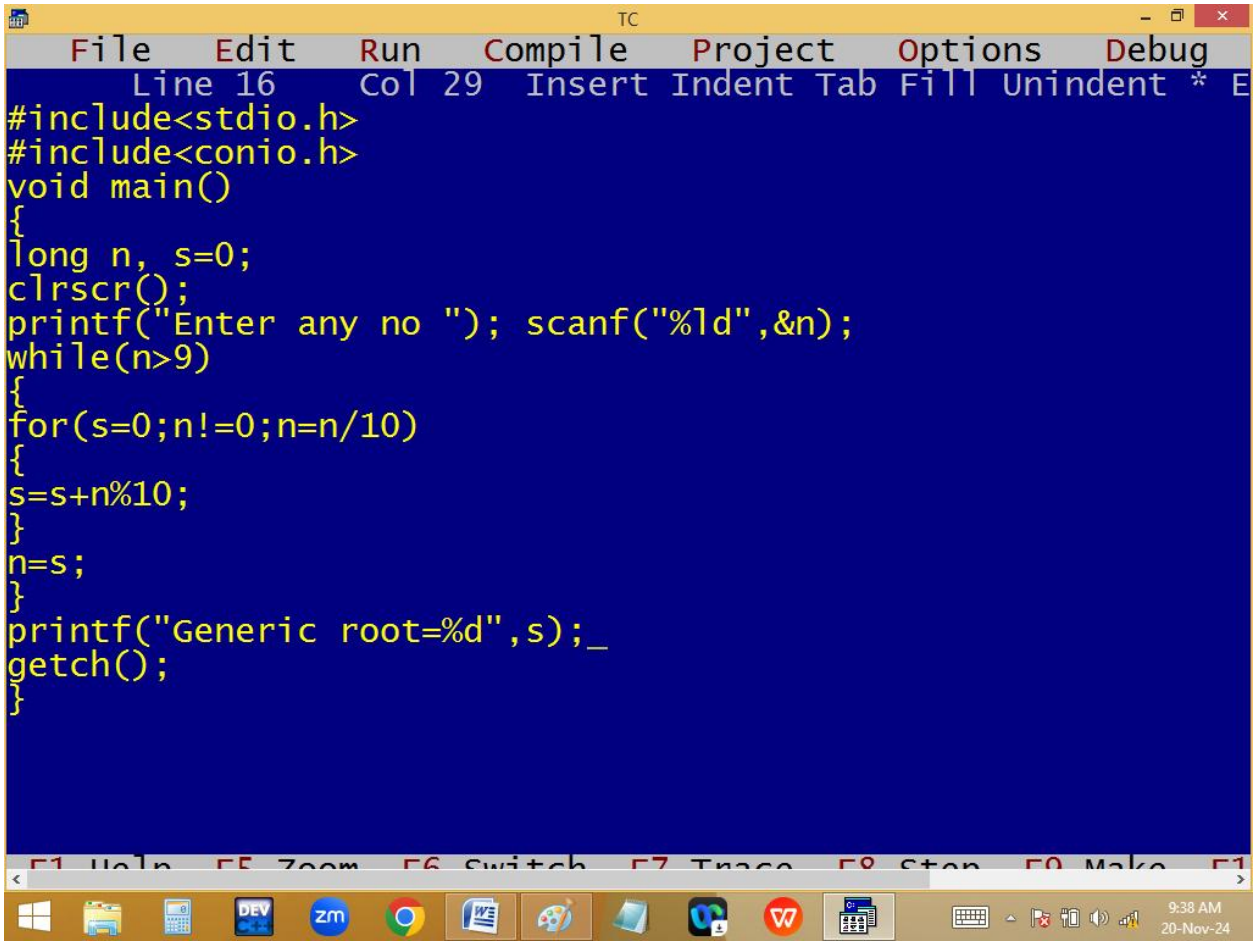
10

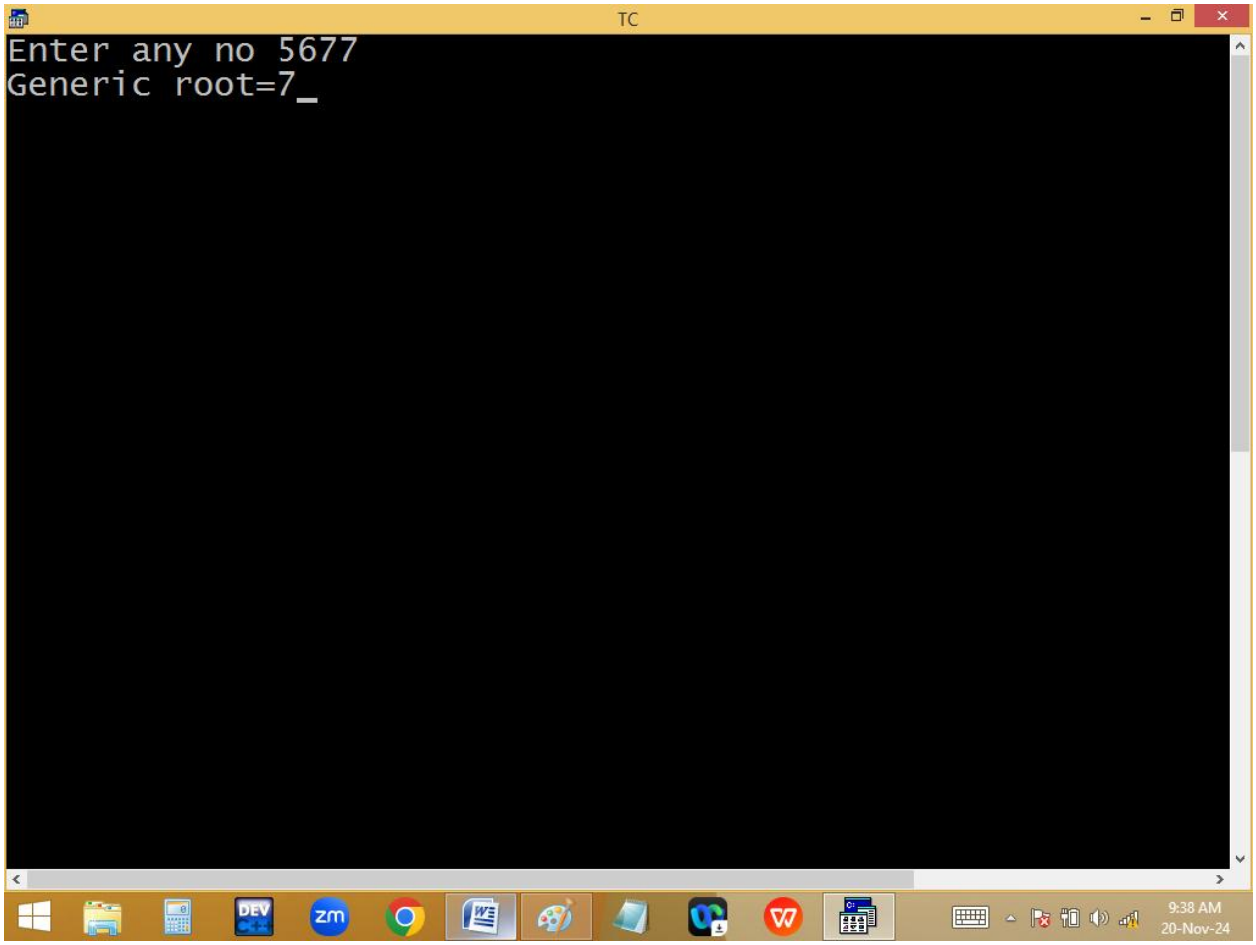
90

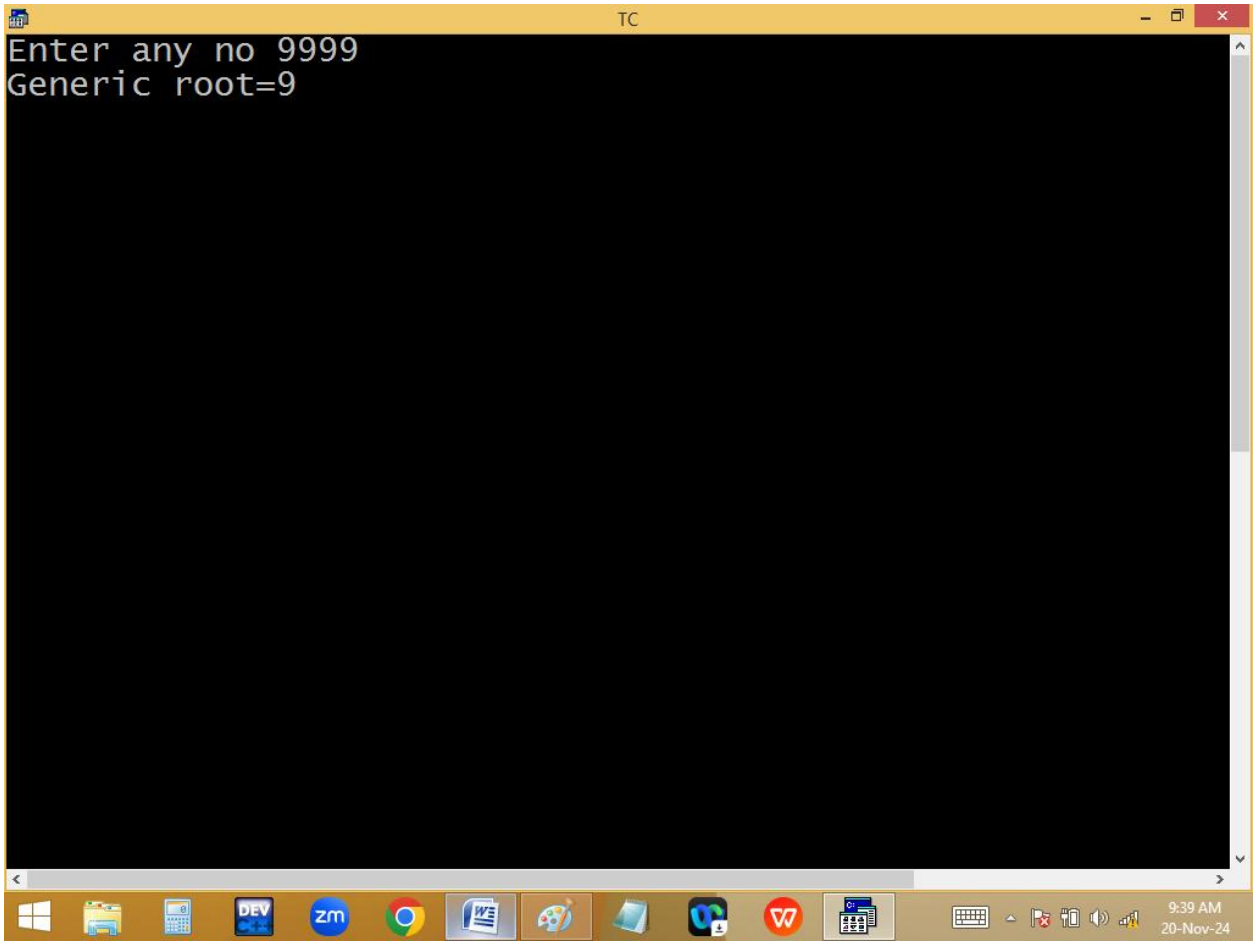


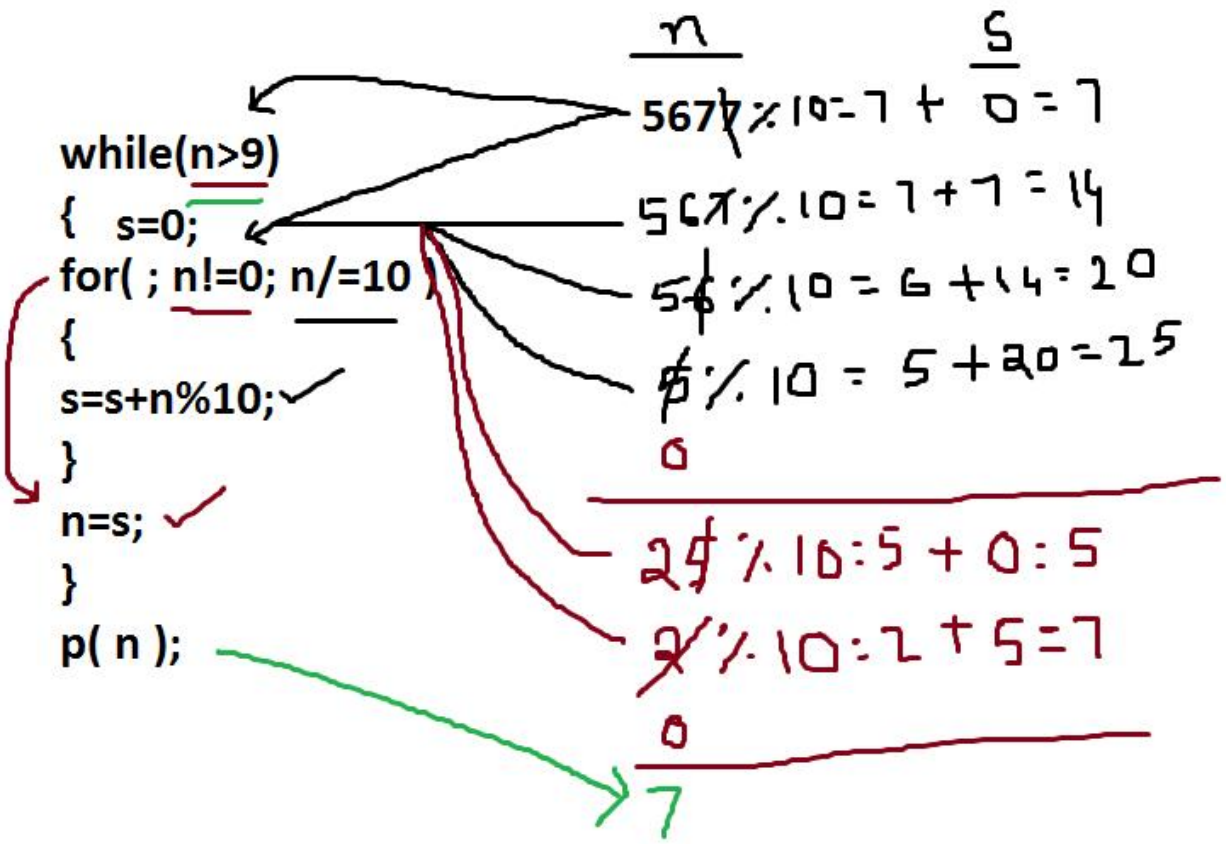
Finding generic root of given no.

5677 = 5+6+7+7=25 ➔ 2+5=7


TC
File Edit Run Compile Project Options Debug
Line 16 Col 29 Insert Indent Tab Fill Unindent * E
#include<stdio.h>
#include<conio.h>
void main()
{
long n, s=0;
clrscr();
printf("Enter any no "); scanf("%ld",&n);
while(n>9)
{
for(s=0;n!=0;n=n/10)
{
s=s+n%10;
}
n=s;
}
printf("Generic root=%d",s);_
getch();
}
9:38 AM
20-Nov-24


TC
Enter any no 5677
Generic root=7_
9:38 AM
20-Nov-24


TC
Enter any no 9999
Generic root=9
9:39 AM
20-Nov-24



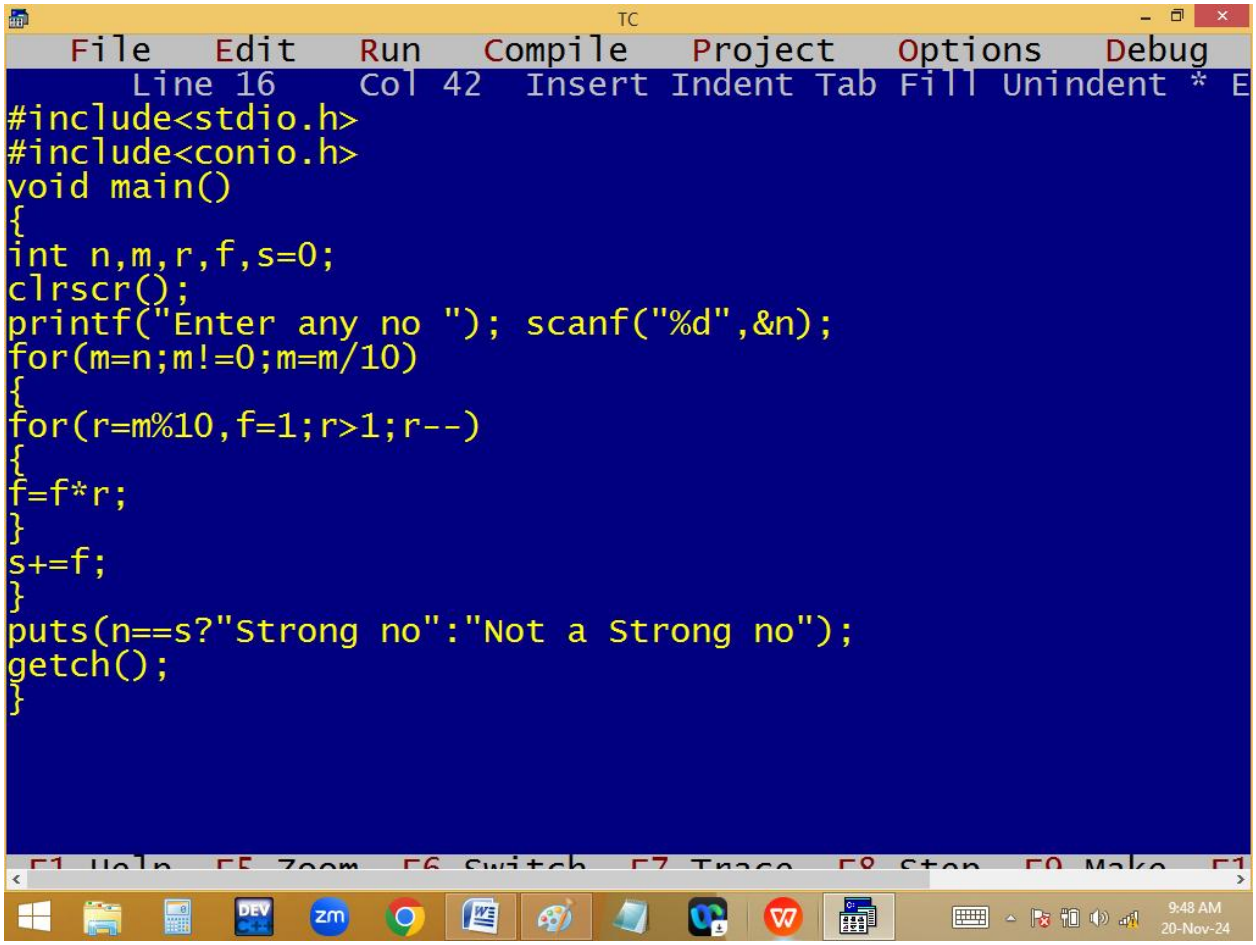
Finding strong no or not?

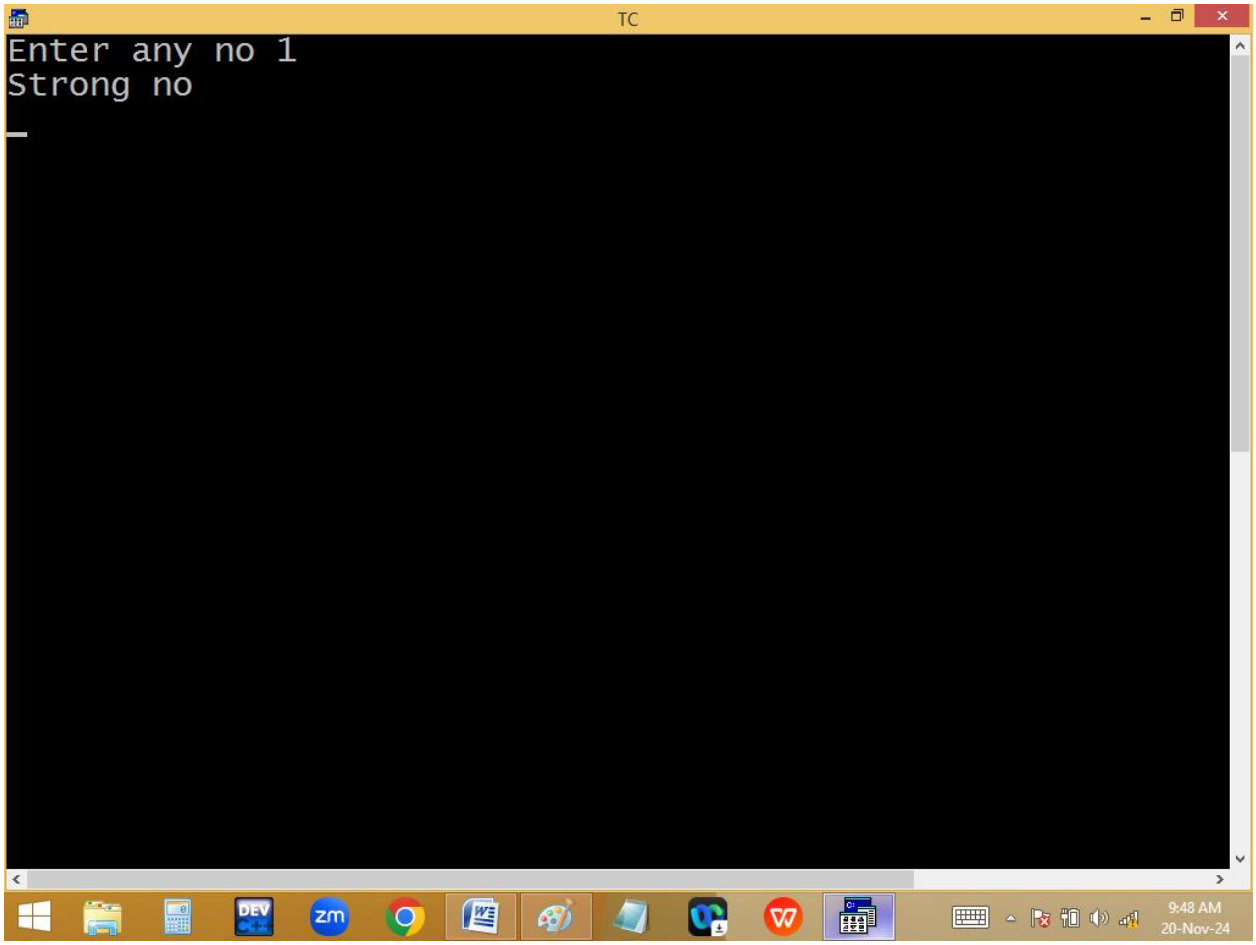
1 factorial is 1

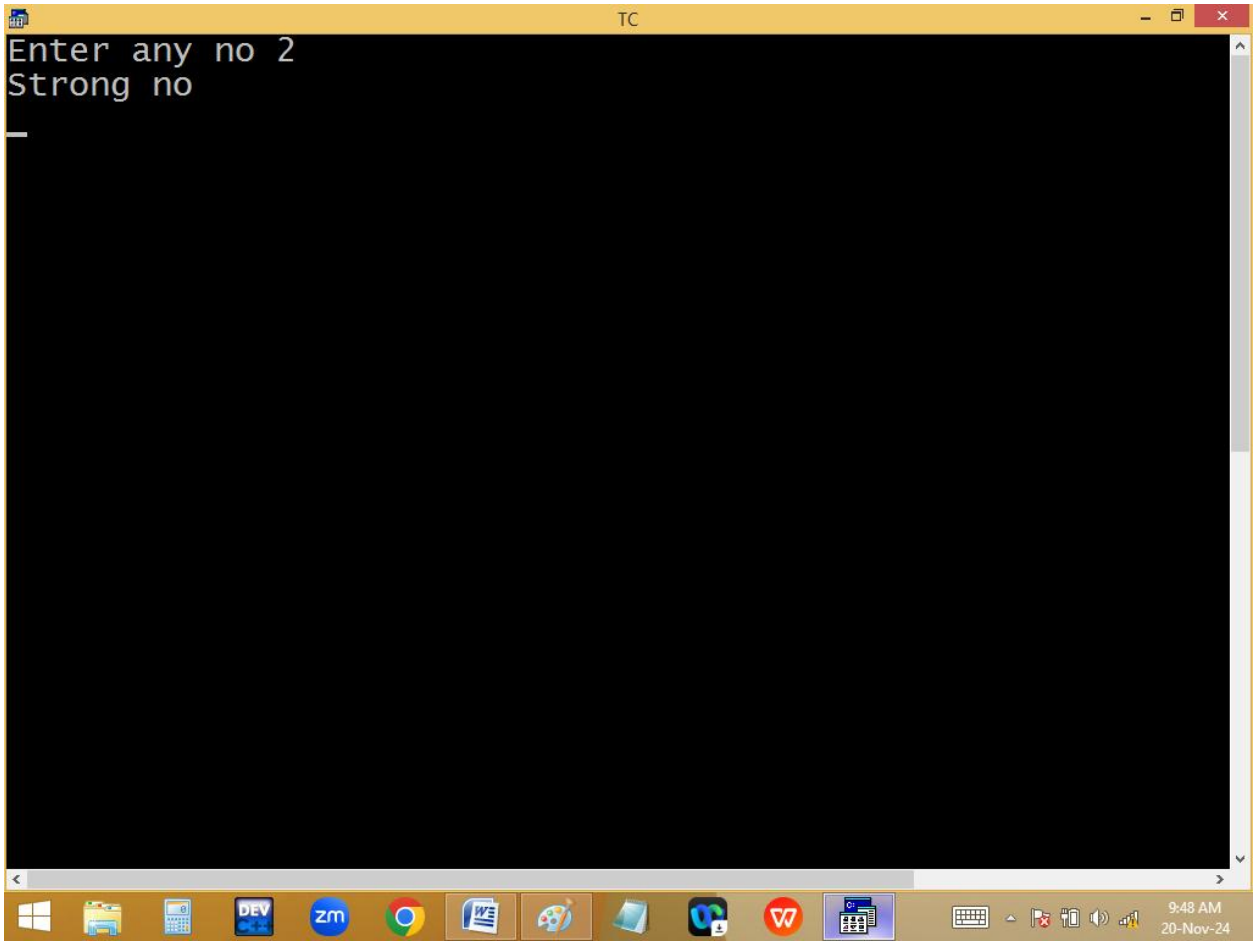
2 factorial is 2

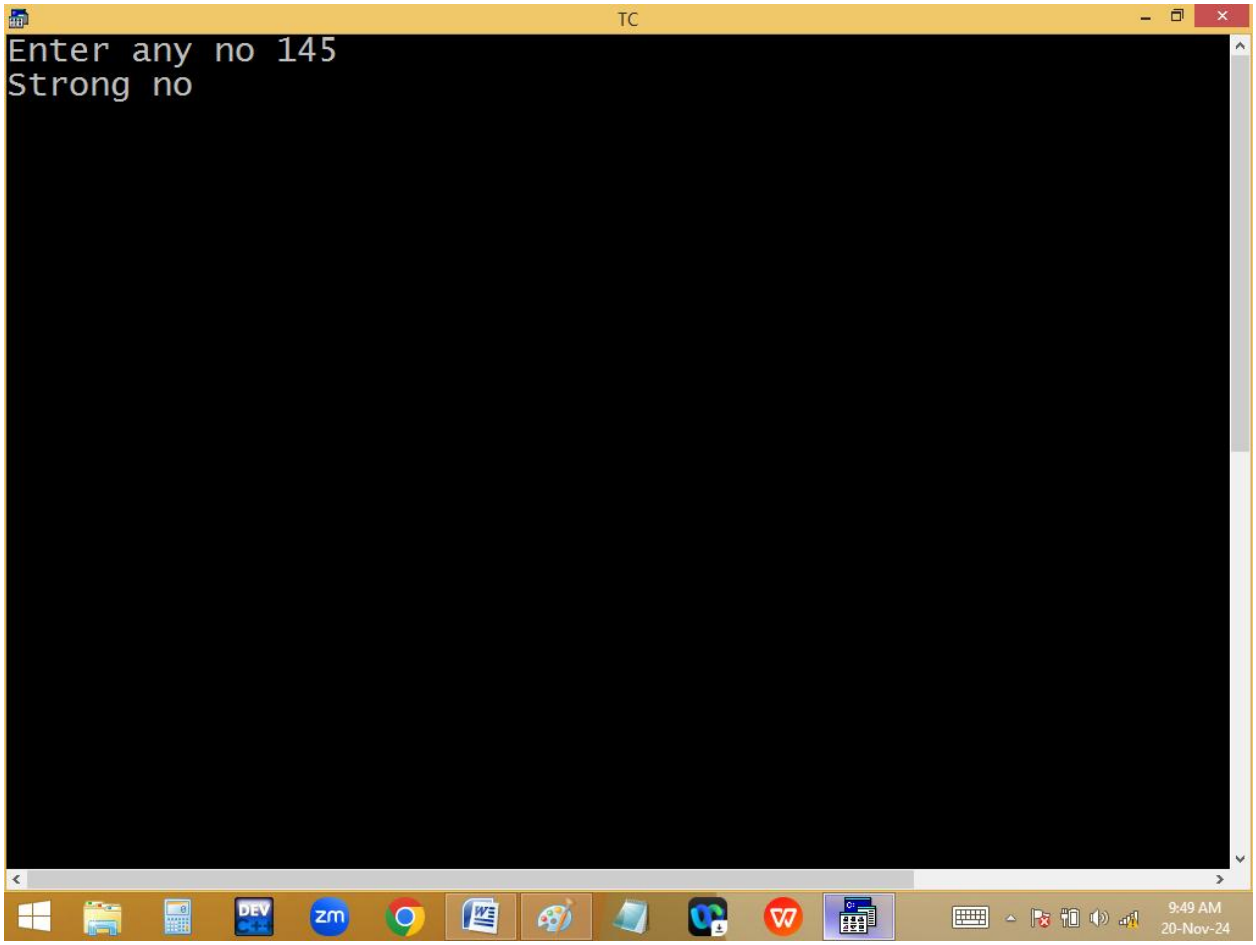
145 ➔ 1! + 4! + 5! = 1 + 24 + 120 = 145

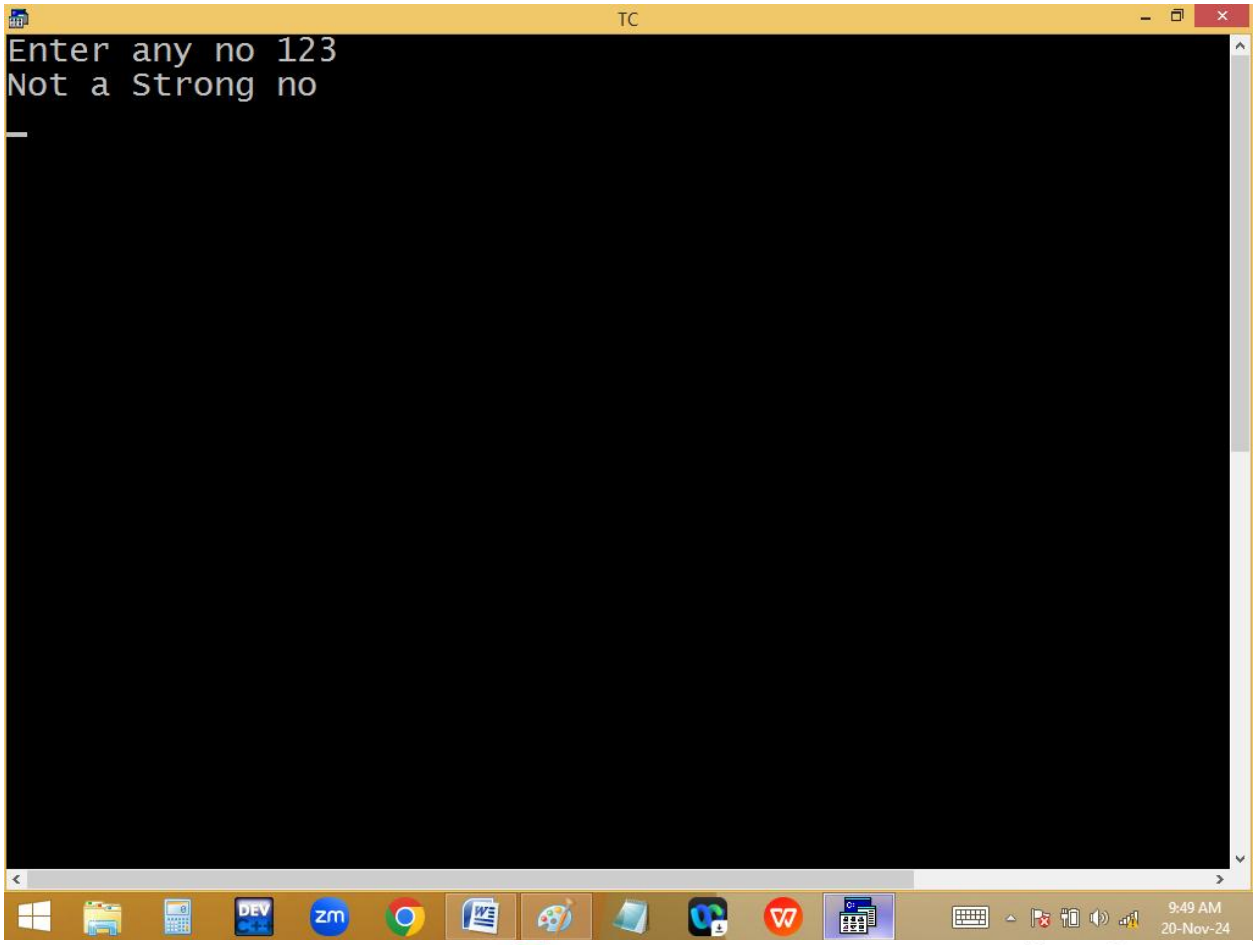
123 ➔1! + 2! + 3! = 1 + 2 + 6 = 9 ← not a strong no


TC
File Edit Run Compile Project Options Debug
Line 16 Col 42 Insert Indent Tab Fill Unindent * E
#include<stdio.h>
#include<conio.h>
void main()
{
int n,m,r,f,s=0;
clrscr();
printf("Enter any no "); scanf("%d",&n);
for(m=n;m!=0;m=m/10)
{
for(r=m%10,f=1;r>1;r--)
{
f=f*r;
}
s+=f;
}
puts(n==s?"Strong no":"Not a Strong no");
getch();
}
9:48 AM
20-Nov-24

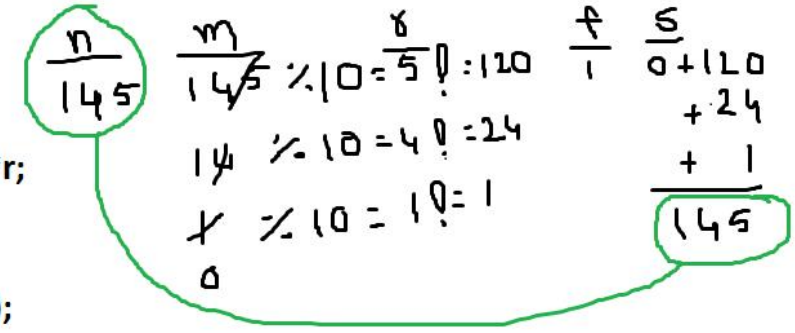

TC
Enter any no 1
Strong no
9:48 AM
20-Nov-24


TC
Enter any no 2
Strong no
9:48 AM
20-Nov-24


TC
Enter any no 145
Strong no
9:49 AM
20-Nov-24

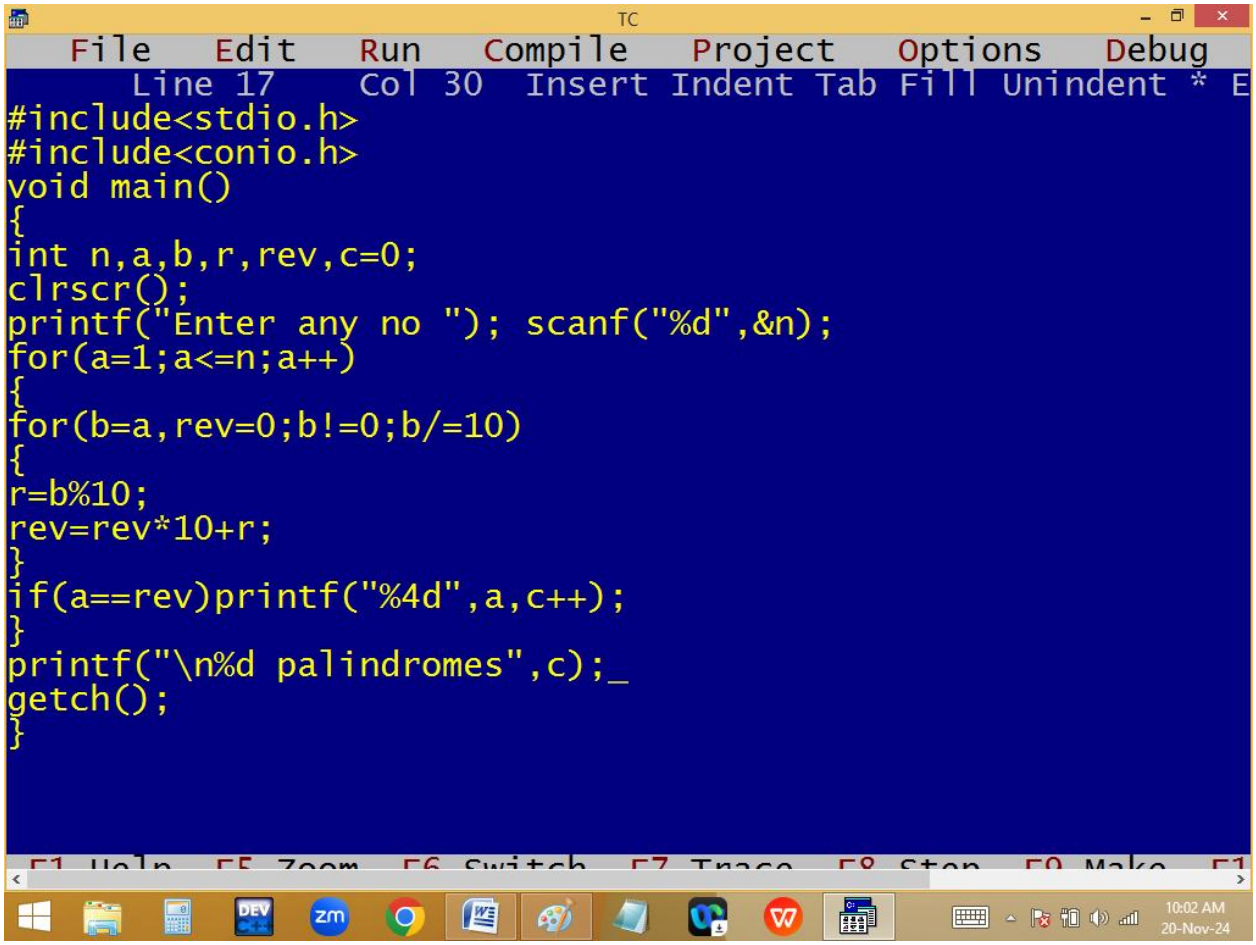


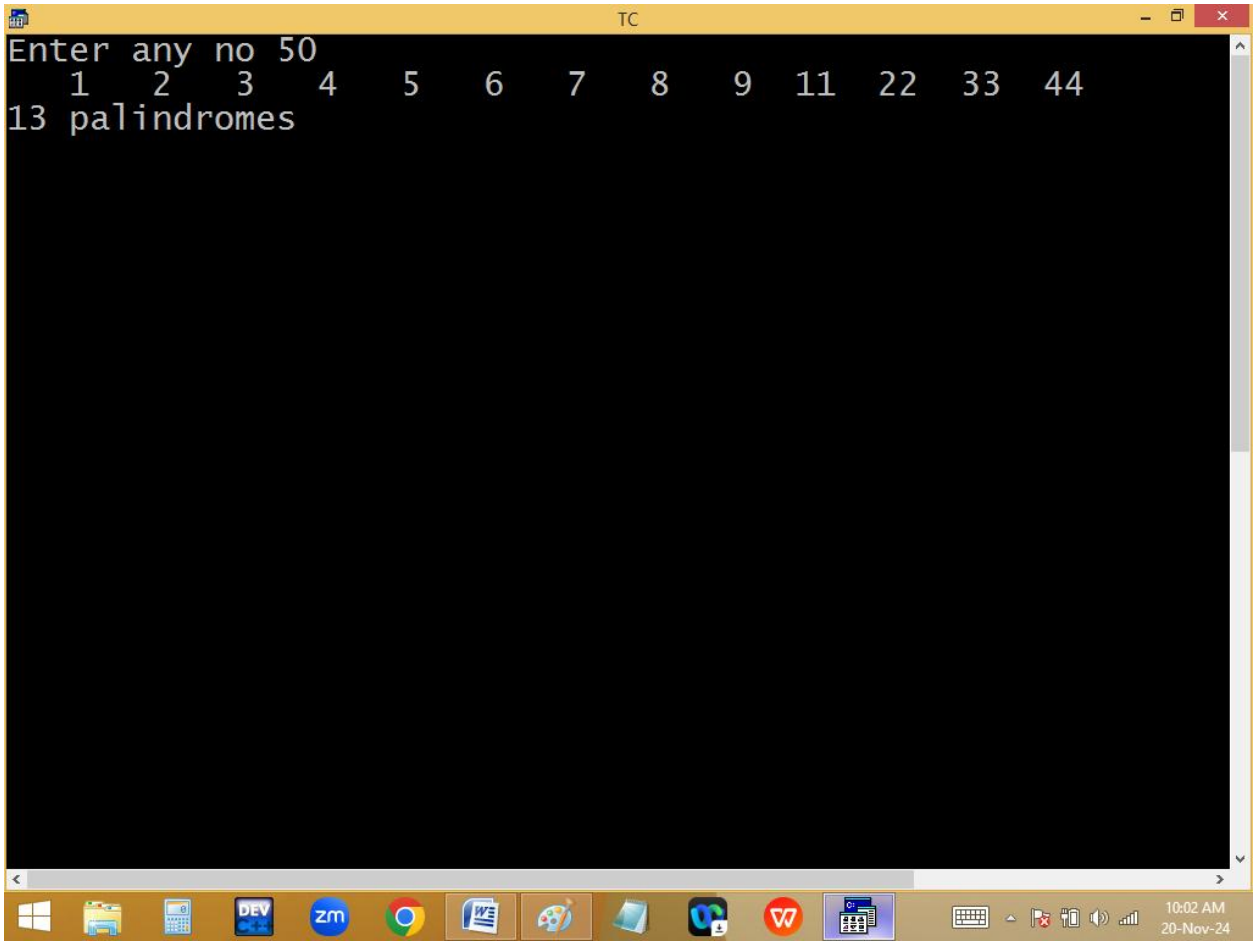

```
for(m=n;m!=0;m/=10)
{
for(r=m%10,f=1;r>1;r--)f=f*r;
s=s+f;
}
puts(n==s?"Strong":"Not");
```

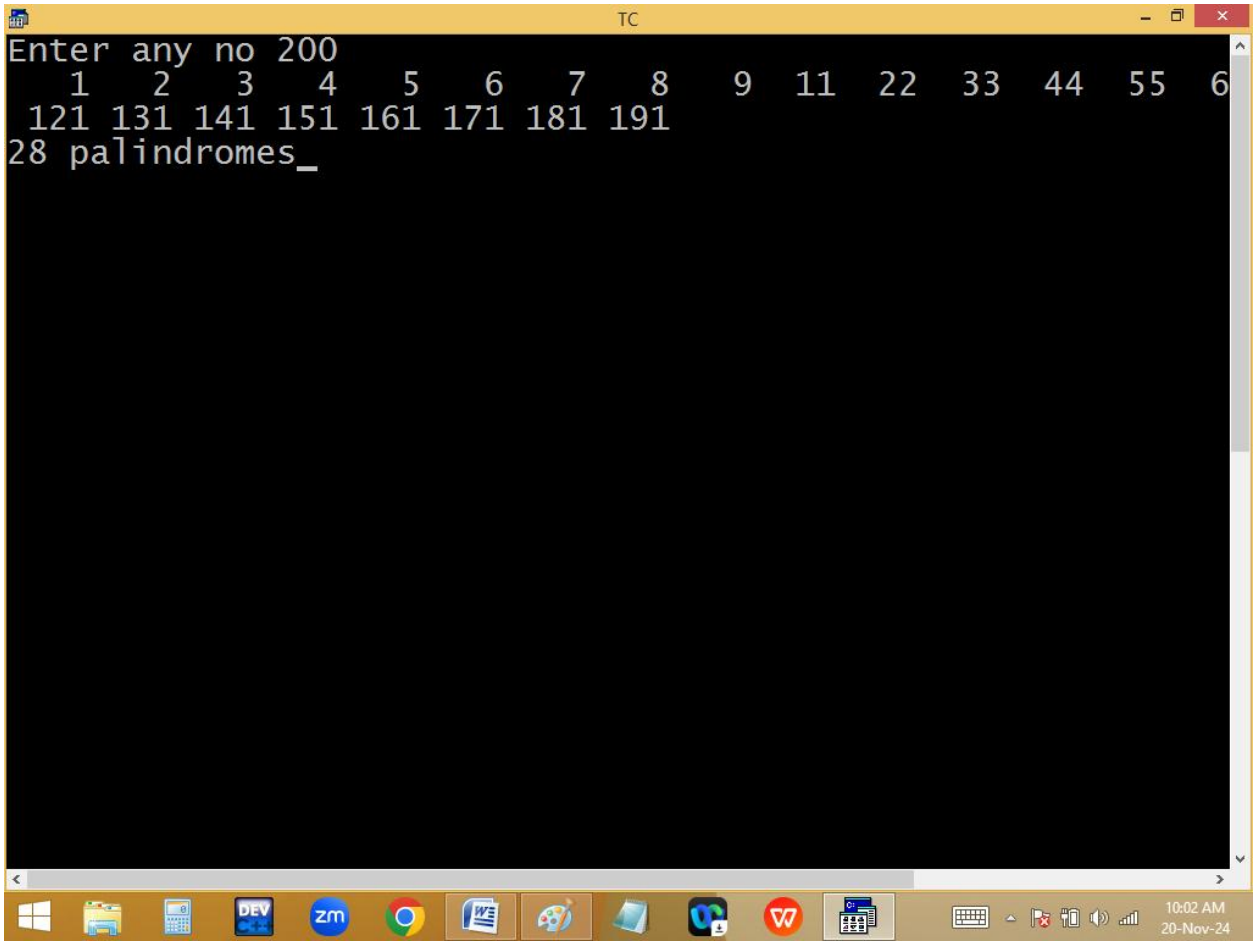


Printing 1..n palindrome no's and count:

n=50 ➔ 1…9


TC
File Edit Run Compile Project Options Debug
Line 17 Col 30 Insert Indent Tab Fill Unindent * E
#include<stdio.h>
#include<conio.h>
void main()
{
int n,a,b,r,rev,c=0;
clrscr();
printf("Enter any no "); scanf("%d",&n);
for(a=1;a<=n;a++)
{
for(b=a,rev=0;b!=0;b/=10)
{
r=b%10;
rev=rev*10+r;
}
if(a==rev)printf("%4d",a,c++);
}
printf("\n%d palindromes",c);
getch();
}
10:02 AM
20-Nov-24


TC
Enter any no 50
1 2 3 4 5 6 7 8 9 11 22 33 44
13 palindromes
10:02 AM
20-Nov-24



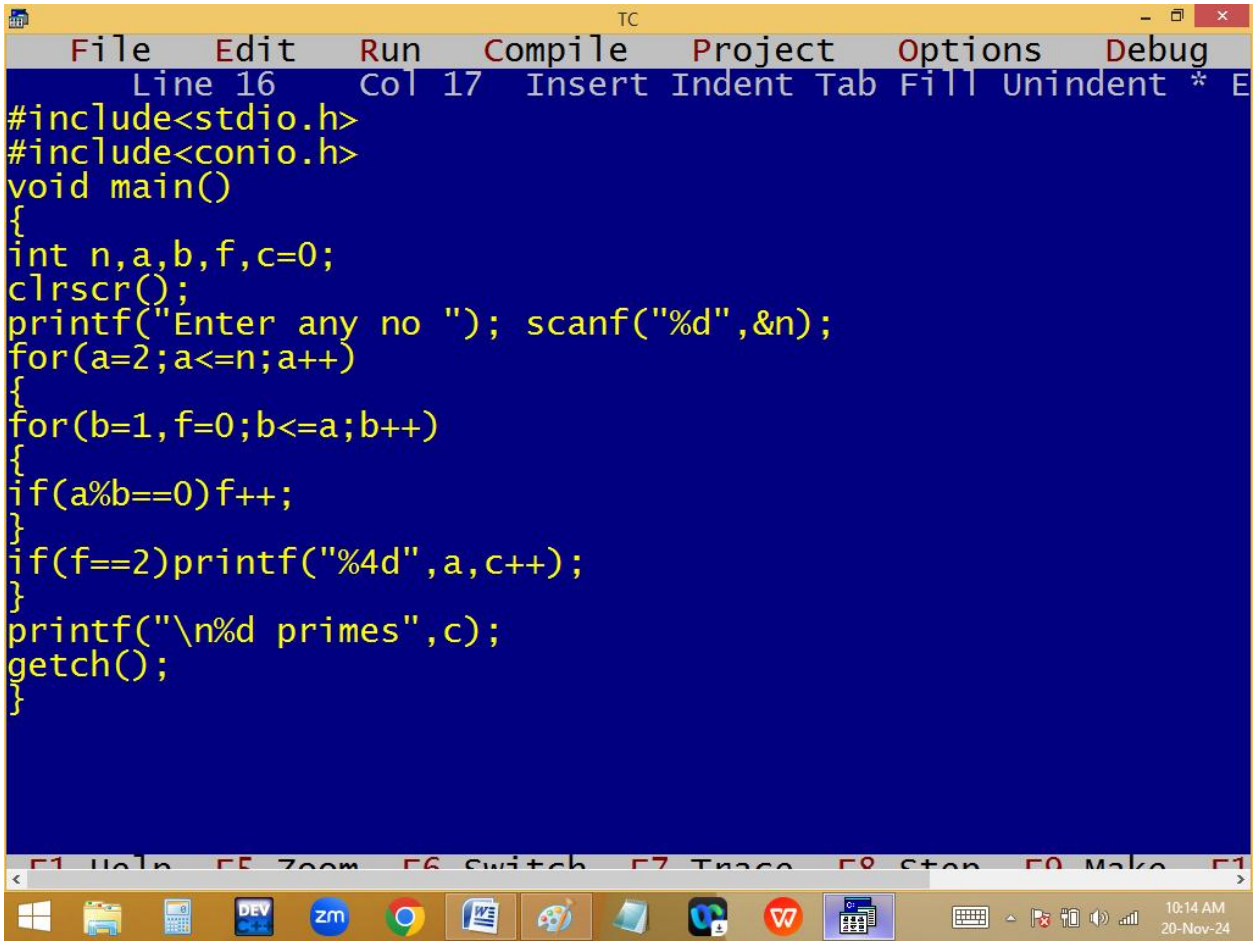

```
for( a=1; a<=n; a++ )
{
for(b=a, rev=0;b!=0;b/=10)
{
r=b%10;
rev=rev*10+r;
}
puts(a==rev)p(a,c++);
}
p(c no of palindromes");
```

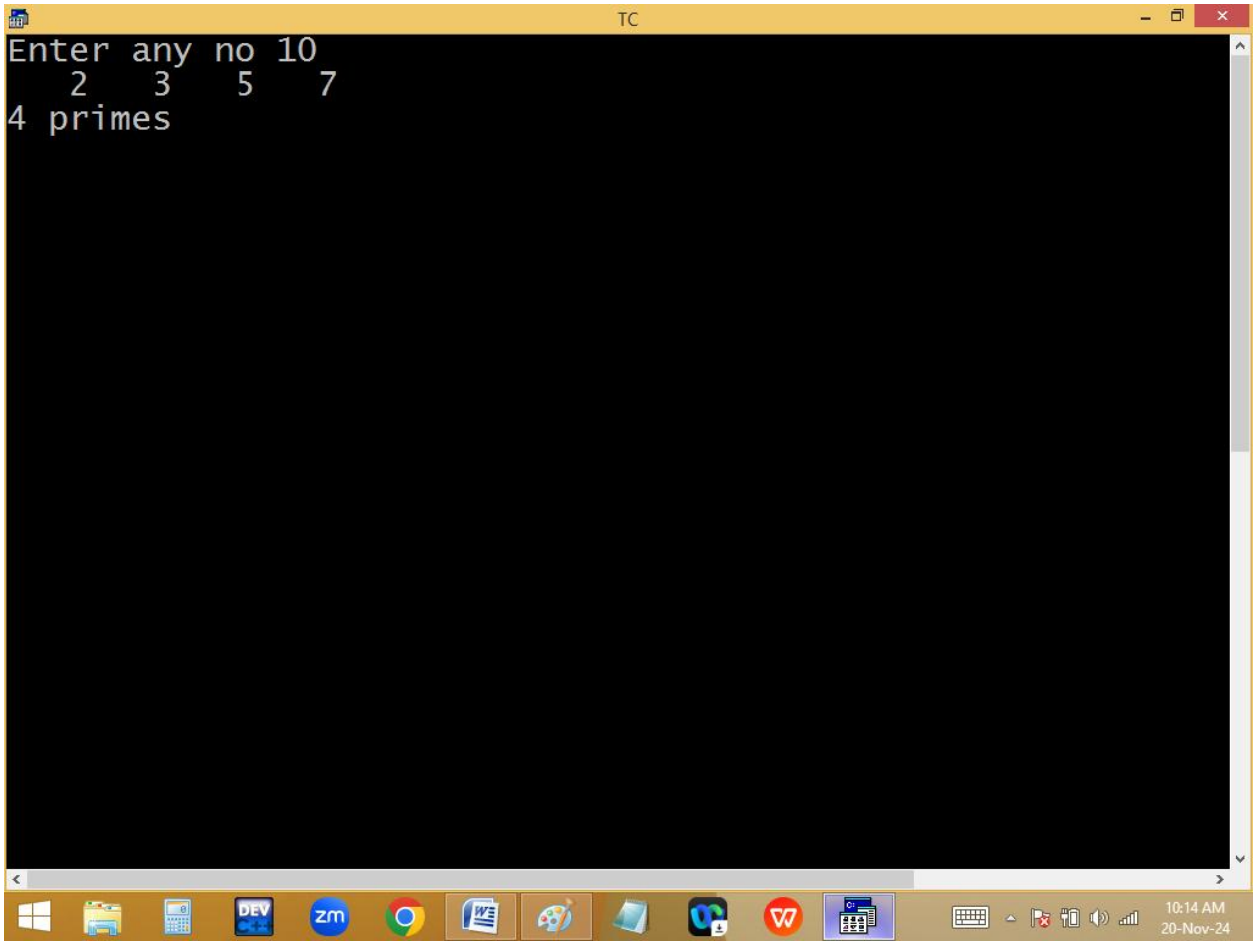
n
50

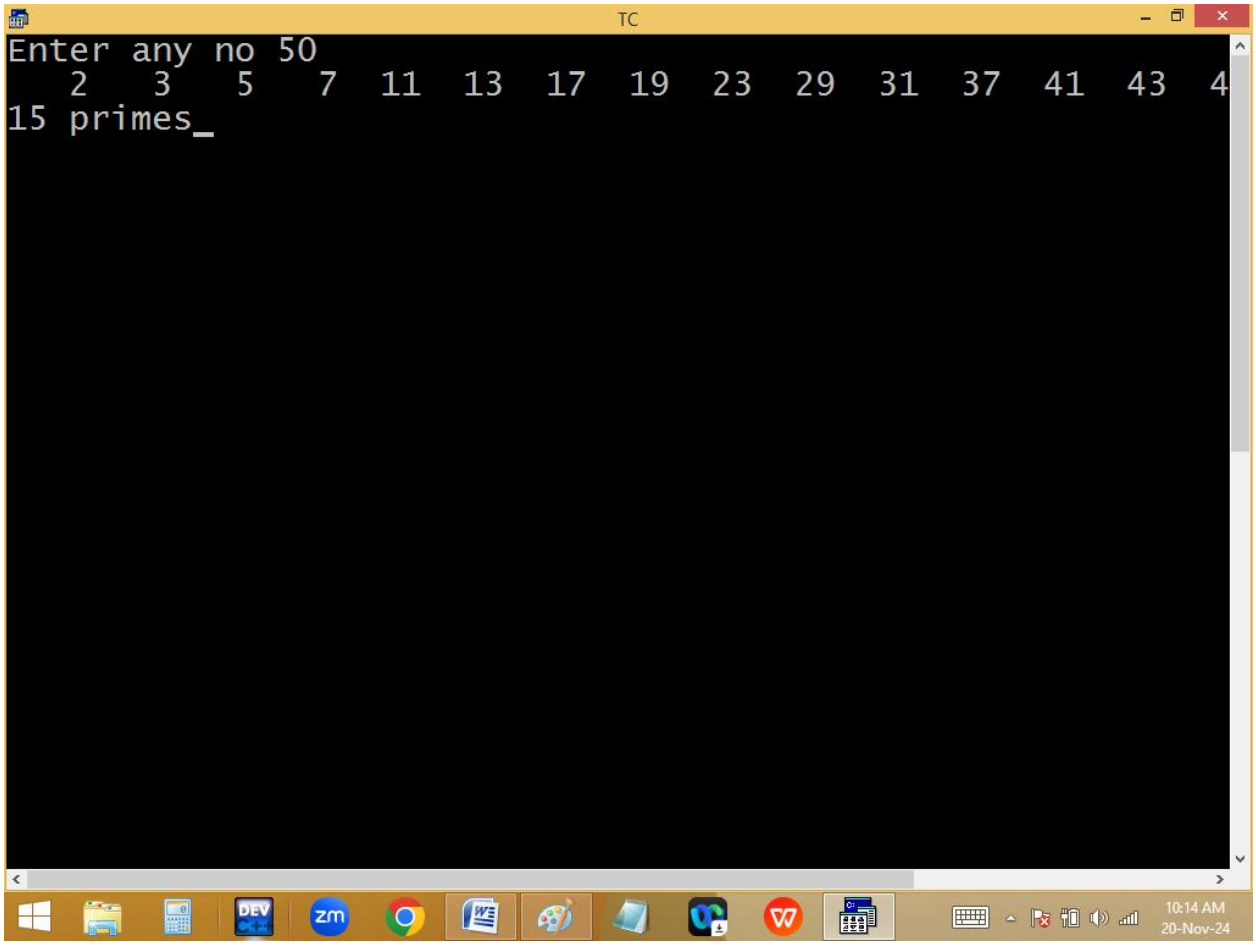
a → b	b	r	rev	c
✓ 1	1	1%10 = 1	0×10+1=1	0 → 1
✓ 2	2	2%10 = 2	0×10+2=2	2 → 9
x 10	10	10%10 = 0	0×10+0=0	10
	1	1%10 = 1	0×10+1=1	
✓ 11	11	11%10=1	0×10+1=1	
	1	1%10 = 1	1×10+1=11	

50

Print 1..n primes and count:


TC
File Edit Run Compile Project Options Debug
Line 16 Col 17 Insert Indent Tab Fill Unindent * E
#include<stdio.h>
#include<conio.h>
void main()
{
int n,a,b,f,c=0;
clrscr();
printf("Enter any no "); scanf("%d",&n);
for(a=2;a<=n;a++)
{
for(b=1,f=0;b<=a;b++)
{
if(a%b==0)f++;
}
if(f==2)printf("%4d",a,c++);
}
printf("\n%d primes",c);
getch();
}
10:14 AM
20-Nov-24

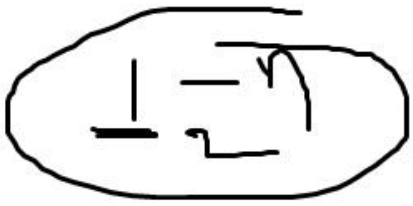

TC
Enter any no 10
2 3 5 7
4 primes
10:14 AM
20-Nov-24


TC
Enter any no 50
2 3 5 7 11 13 17 19 23 29 31 37 41 43 4
15 primes_
10:14 AM
20-Nov-24

```
for ( a=2; a<=n ; a++ )
{
for(b =1;b<=a; b++)
{
if(a%b==0)f++;
}
if(f==2)p(a,c++);
}
p(c no of primes);
```

n / 10

a / 2 % 1 = 0
2 = 0



n / 10 ✓ a / 2 % b / 1=0 f / 0 1 2 ✓ c / 0

2 % 2=0 1

✓ 3 % 1=0 0 1 2 ✓ 2

3 % 3=0

✗ 4 % 1=0 0 1 2 3

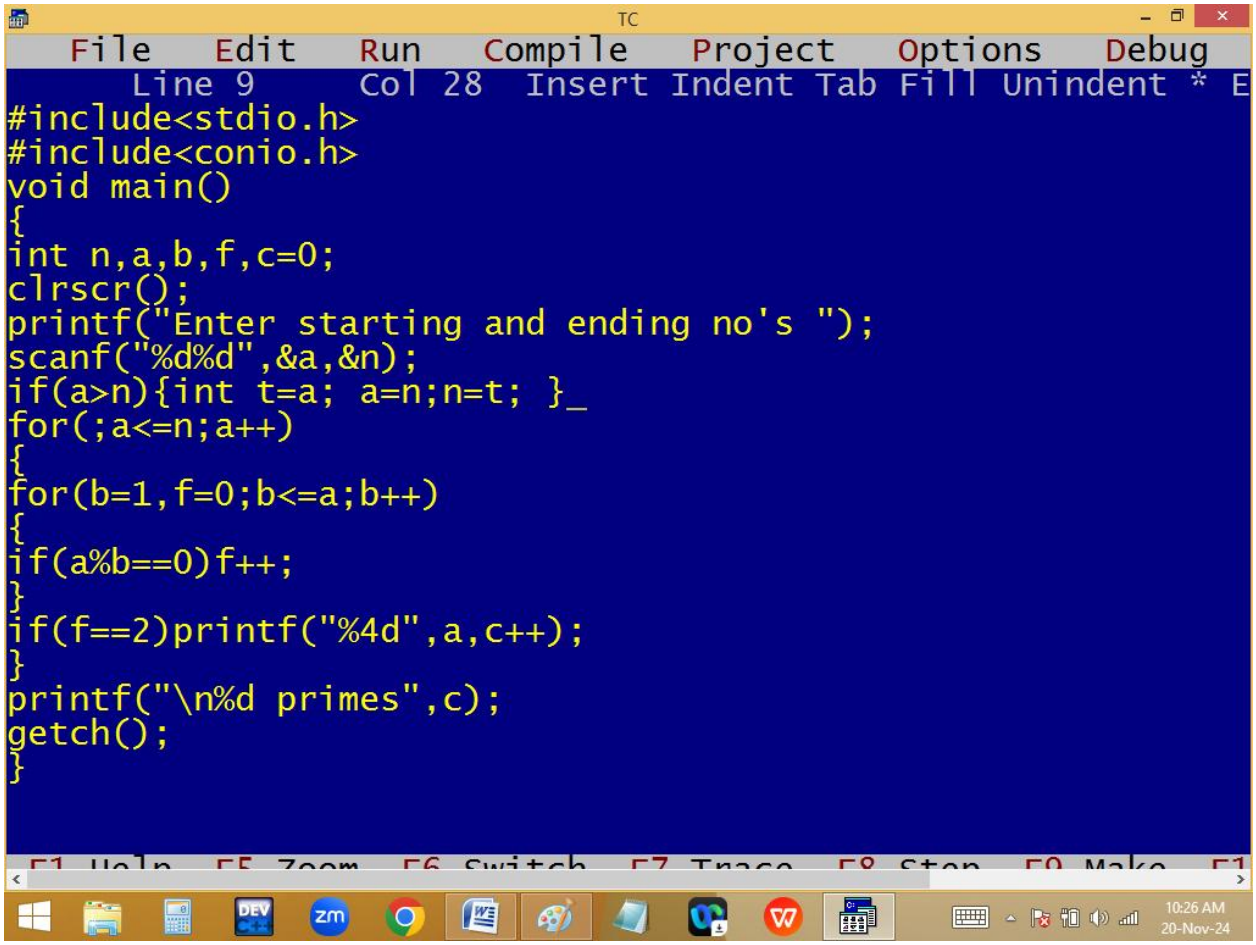
4 % 2=0

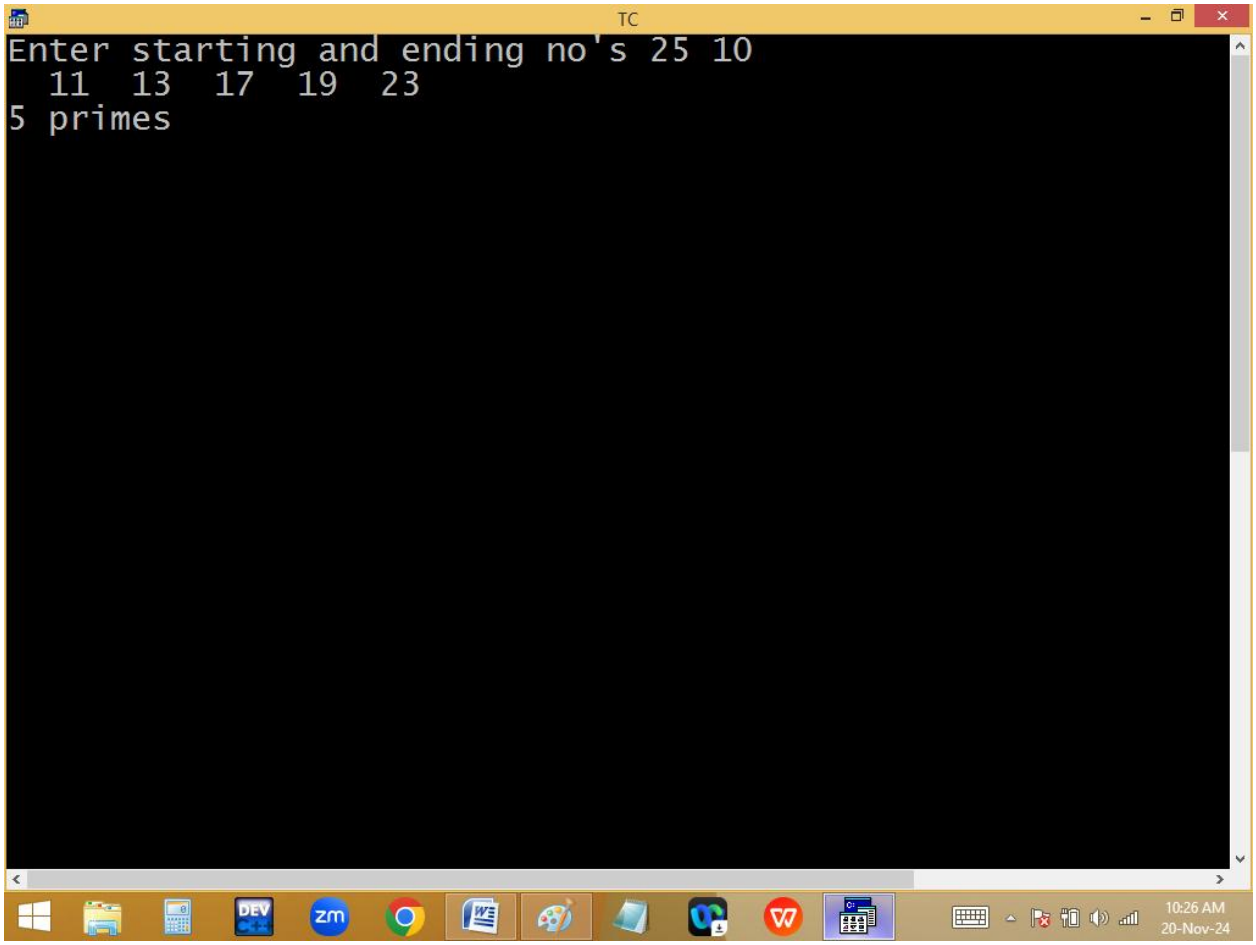
4 % 4=0

✓ 5 % 1=0 0 1 2 3

5 % 5 = 0

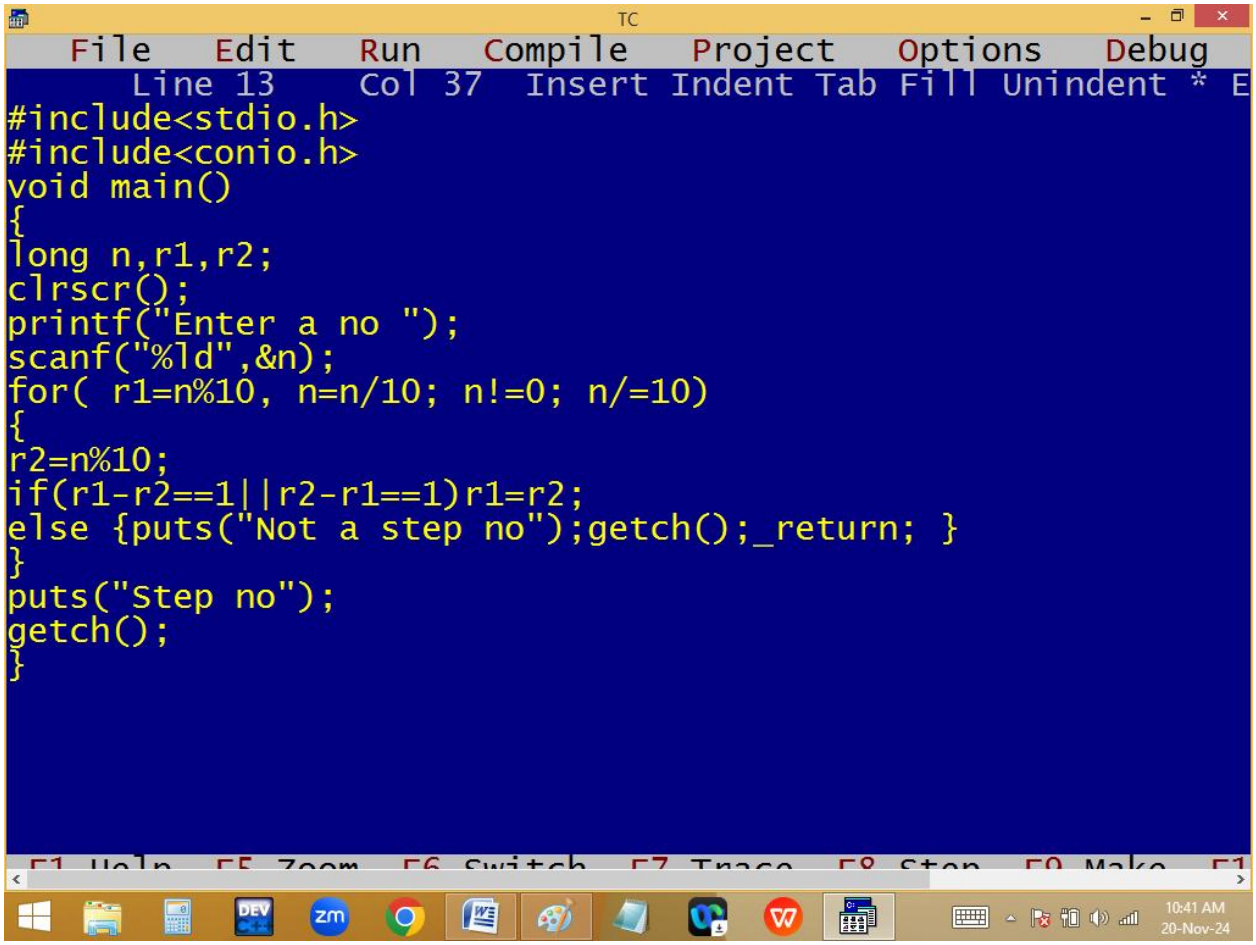
Print n to n primes and count:

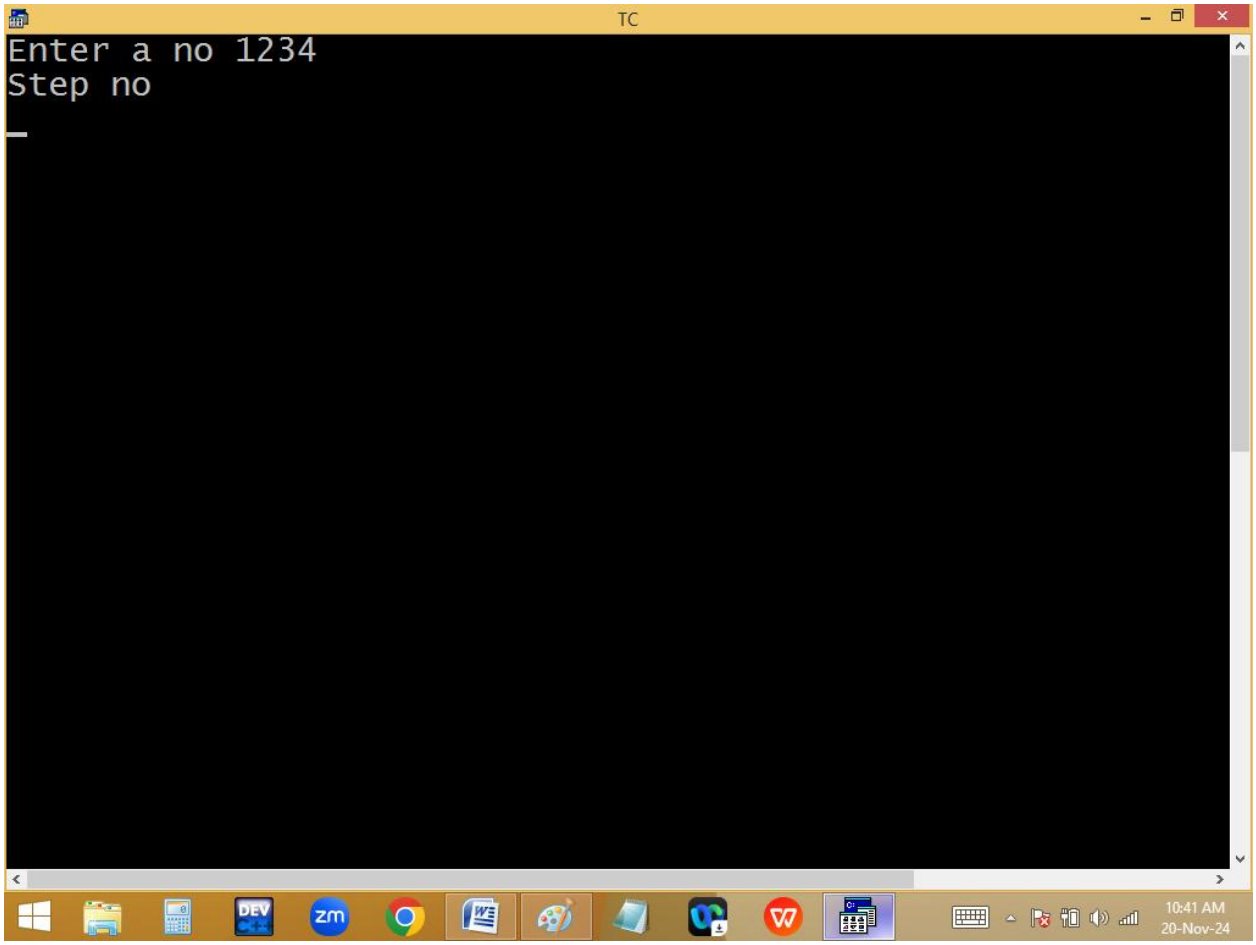

TC
File Edit Run Compile Project Options Debug
Line 9 Col 28 Insert Indent Tab Fill Unindent * E
#include<stdio.h>
#include<conio.h>
void main()
{
int n,a,b,f,c=0;
clrscr();
printf("Enter starting and ending no's ");
scanf("%d%d",&a,&n);
if(a>n){int t=a; a=n;n=t; }_
for(;a<=n;a++)
{
for(b=1,f=0;b<=a;b++)
{
if(a%b==0)f++;
}
if(f==2)printf("%4d",a,c++);
}
printf("\n%d primes",c);
getch();
}
10:26 AM
20-Nov-24

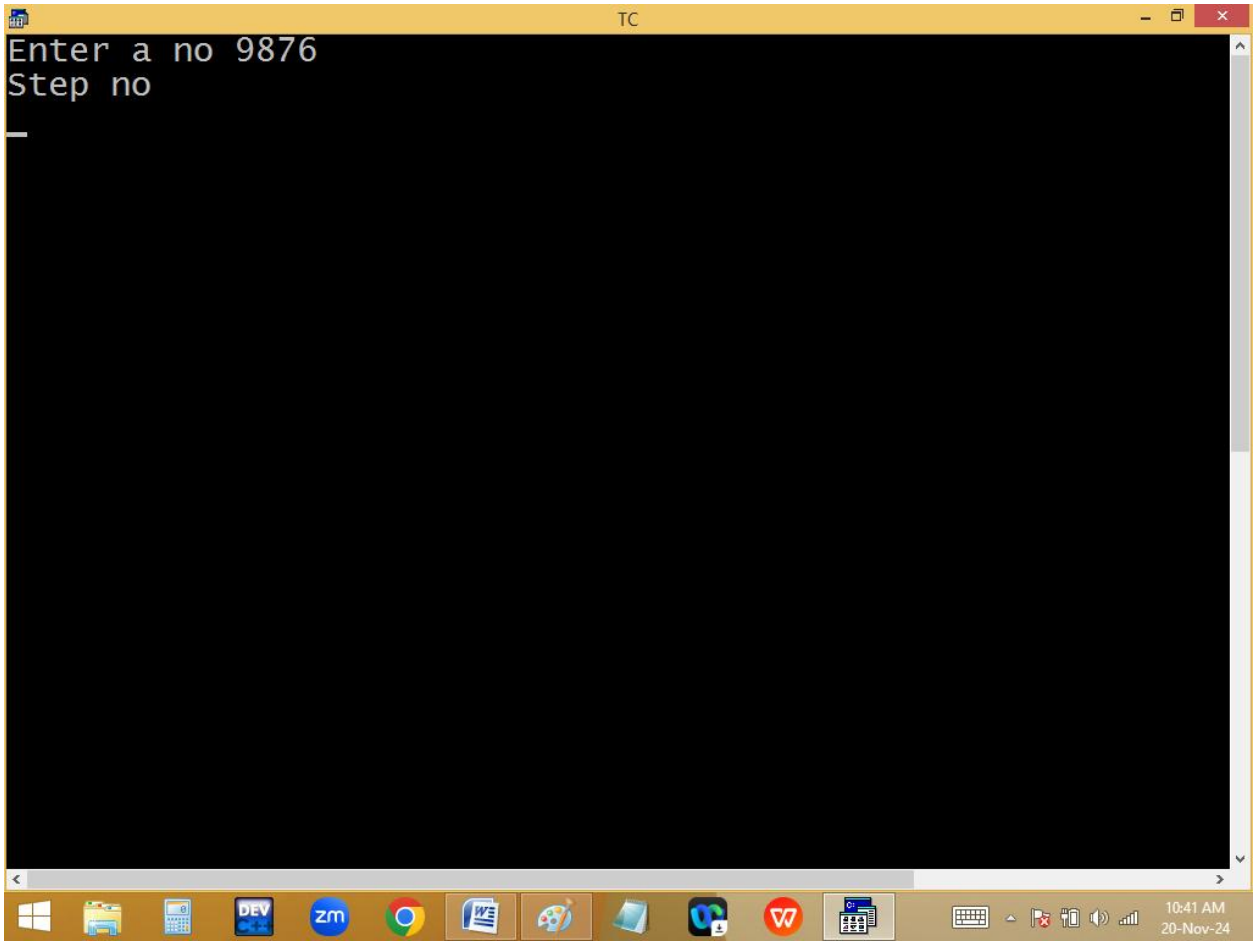


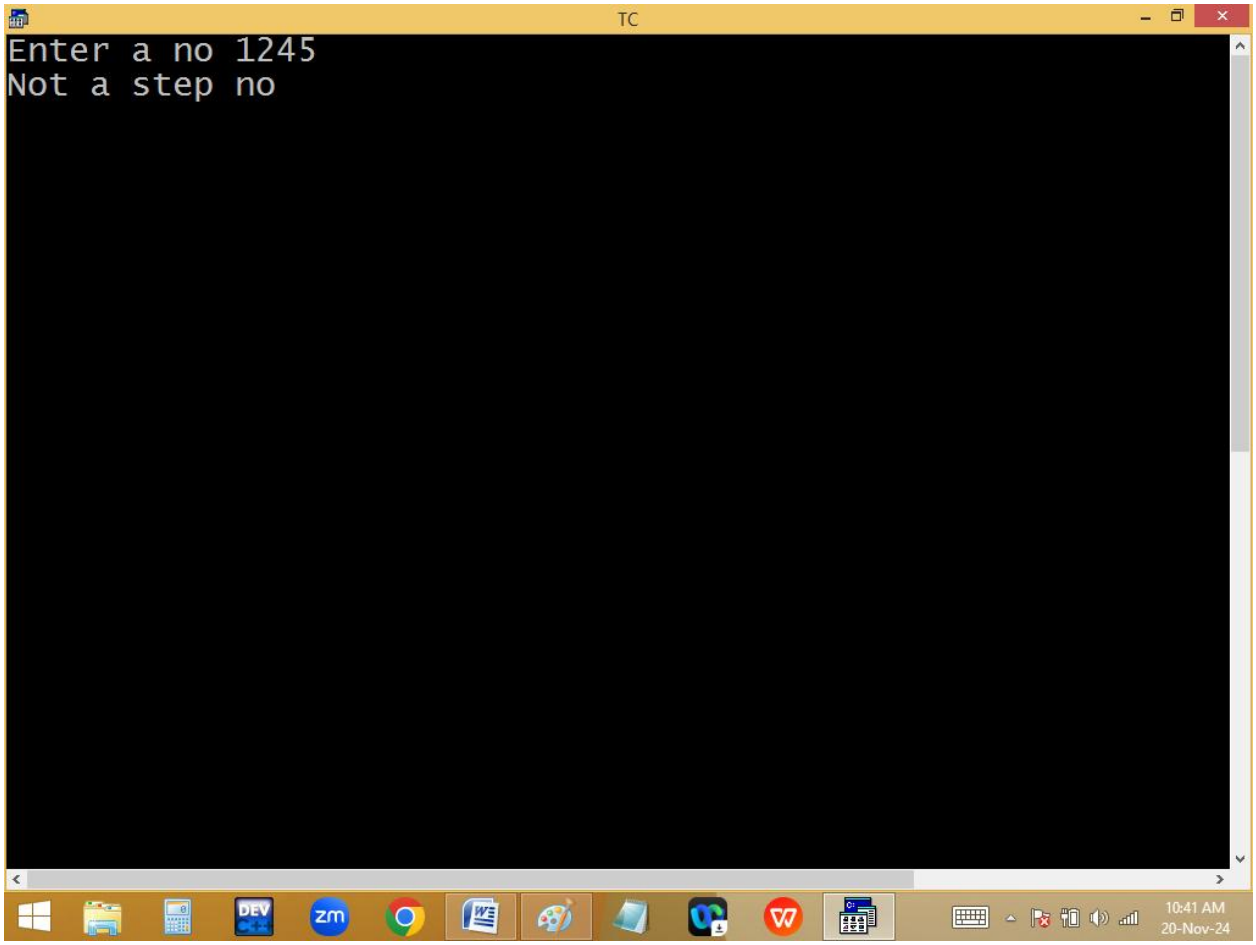
Finding step no:

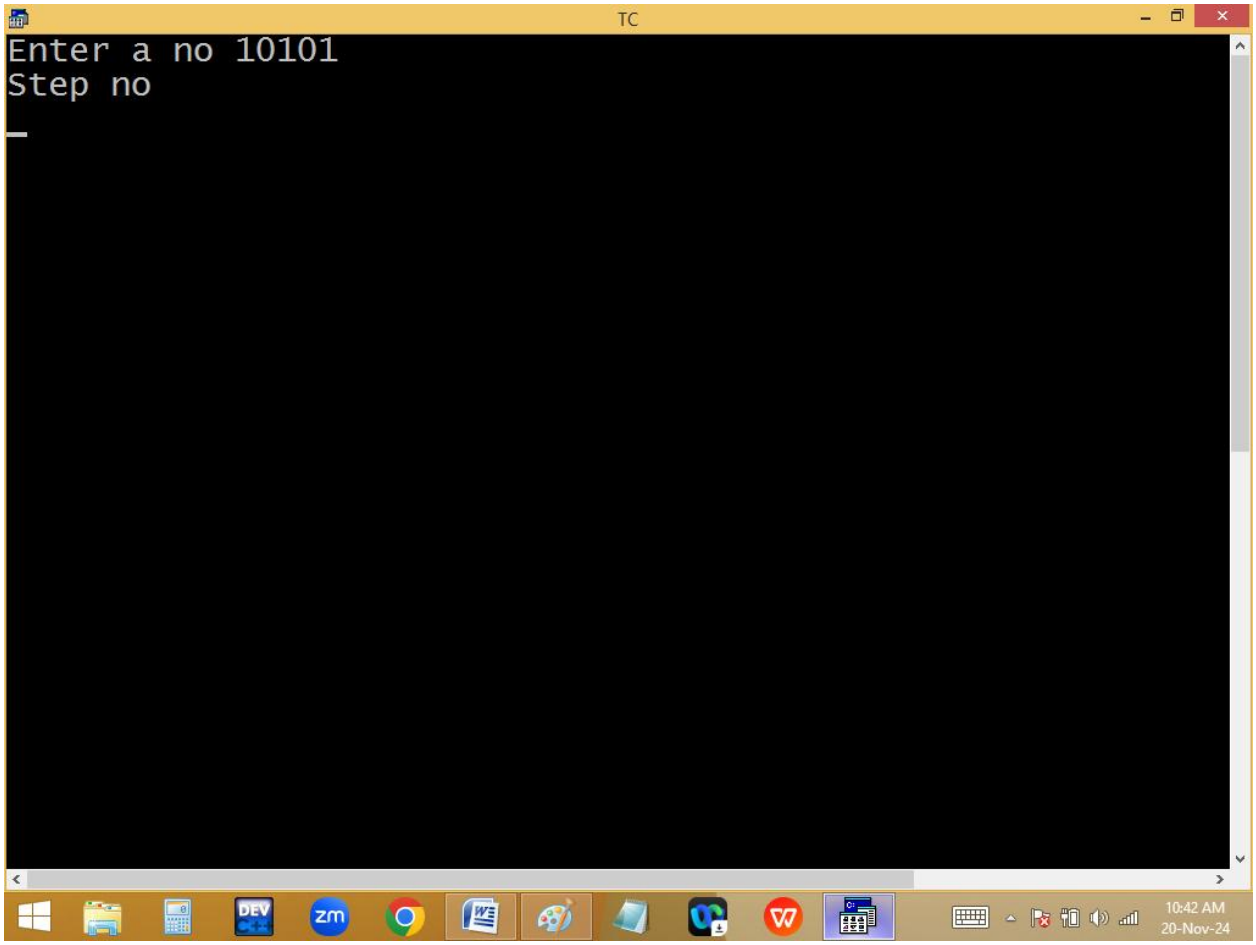
1234 ➔ all the digits difference is 1


TC
File Edit Run Compile Project Options Debug
Line 13 Col 37 Insert Indent Tab Fill Unindent * E
#include<stdio.h>
#include<conio.h>
void main()
{
long n,r1,r2;
clrscr();
printf("Enter a no ");
scanf("%ld",&n);
for(r1=n%10, n=n/10; n!=0; n/=10)
{
r2=n%10;
if(r1-r2==1||r2-r1==1)r1=r2;
else {puts("Not a step no");getch();_return; }
}
puts("Step no");
getch();
}
10:41 AM
20-Nov-24


TC
Enter a no 1234
Step no
10:41 AM
20-Nov-24


TC
Enter a no 9876
Step no
10:41 AM
20-Nov-24


TC
Enter a no 1245
Not a step no
10:41 AM
20-Nov-24




```
r1 = n%10;

n=n/10;

for ( ; n!=0; n/=10 )
{
r2 = n%10;

if(r1-r2==1 || r2-r1==1) r1=r2;

else p(not); return;
}
p(step no);
```

n r1 r2

1234 %10 = 4

123 %10 = 3

12 %10 = 2

1 %10 = 1

0

786

Automorphic no:

n=5 ➔ 5 * 5 = 25

n=25 ➔ 25 * 25 ➔ 625