Printing the given table:

Eg: 9^{th} table

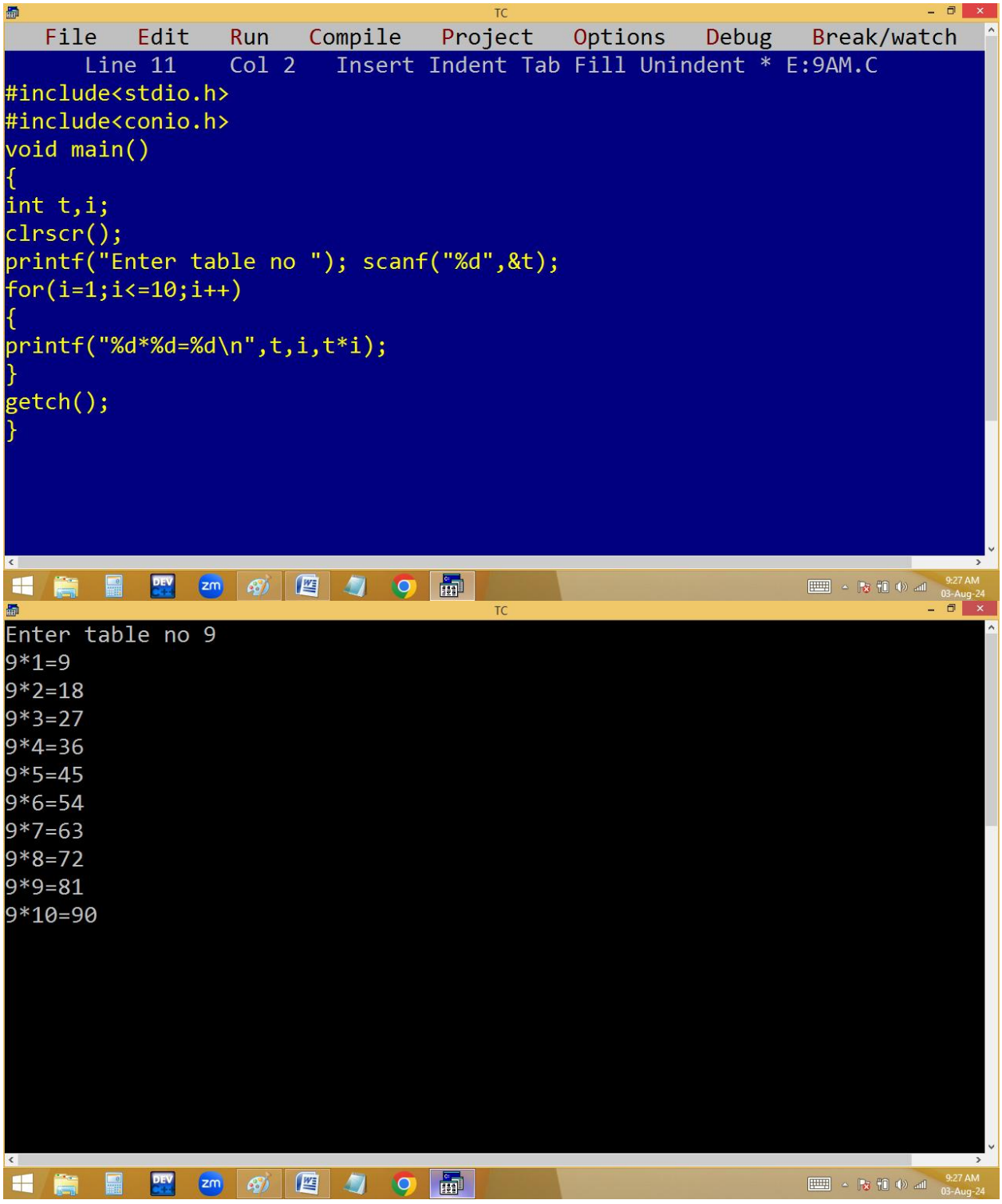
9*1=9

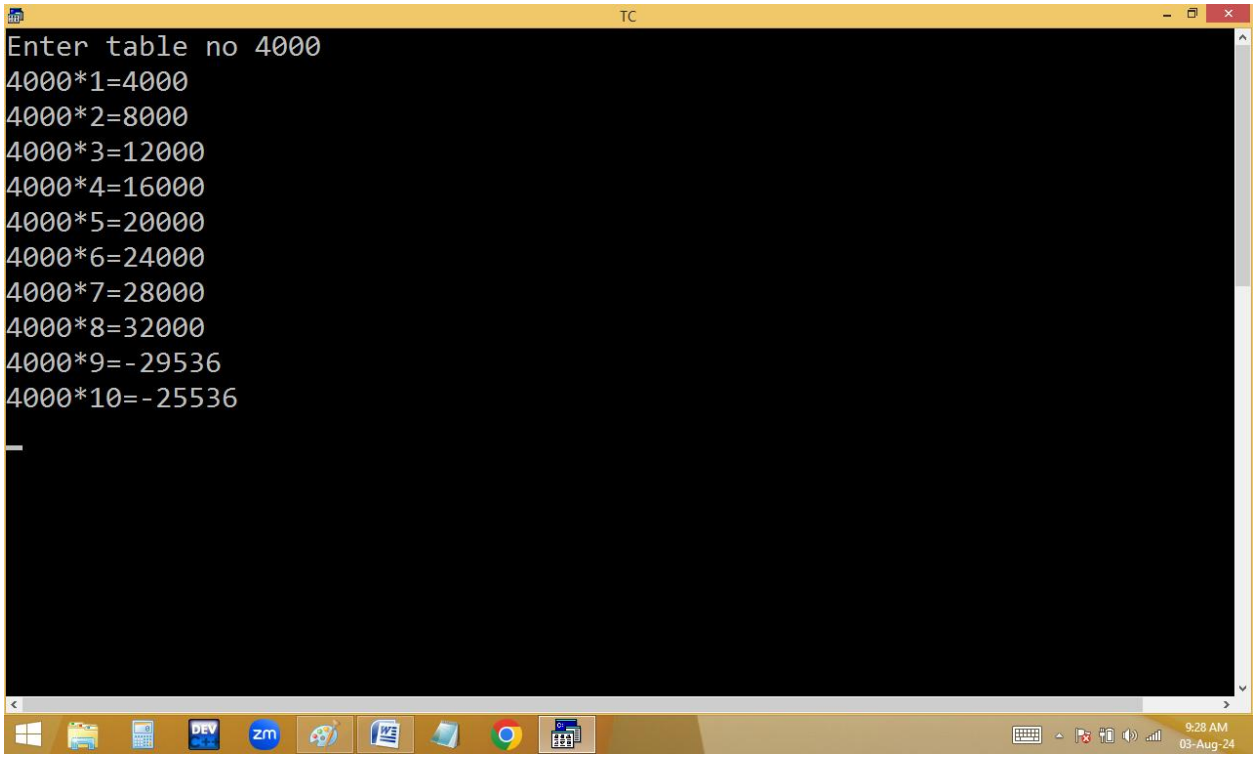
9*2=18

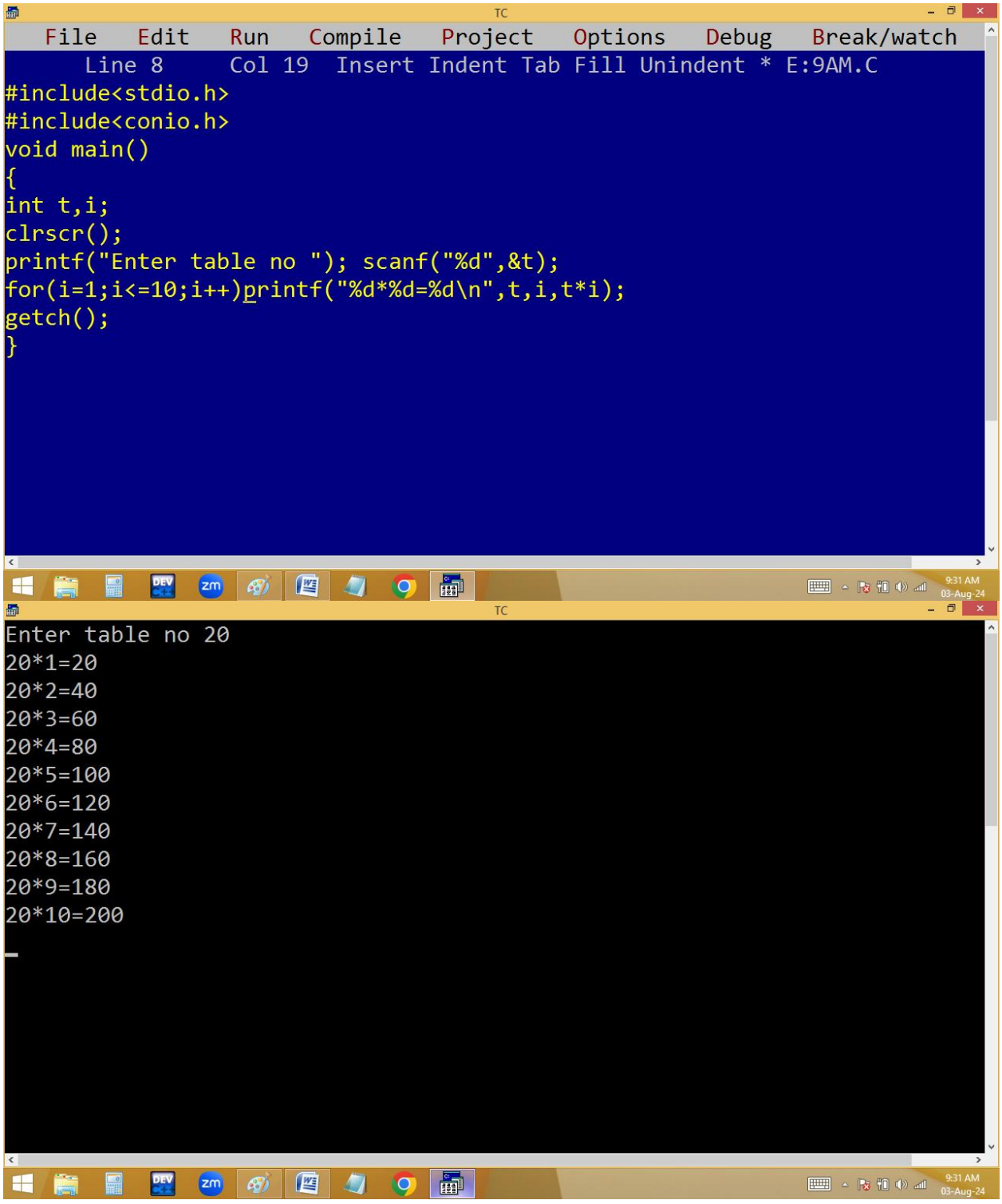
…

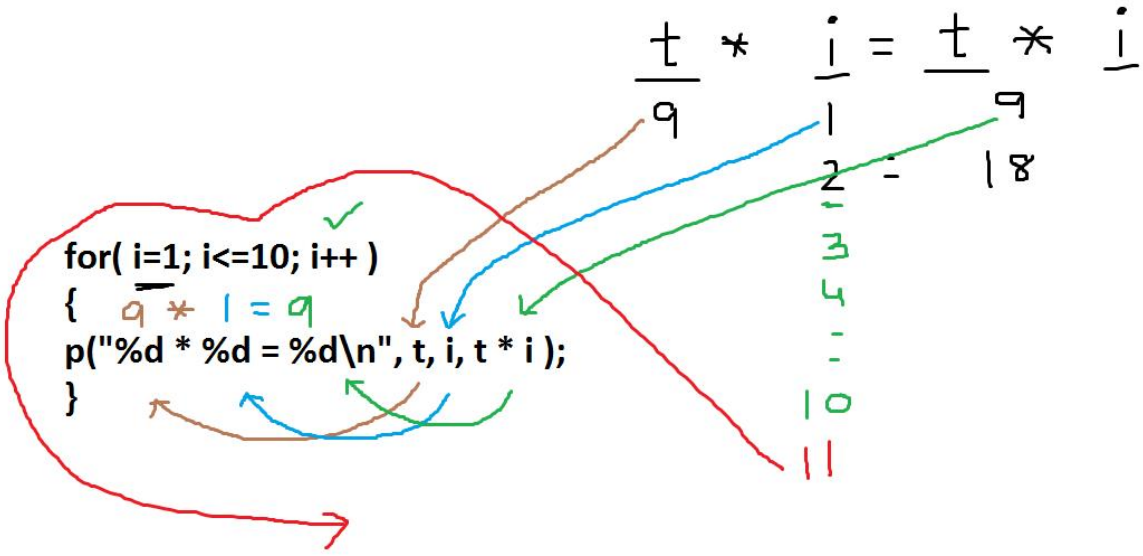
…

9*10=90


TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 2 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int t,i;
clrscr();
printf("Enter table no "); scanf("%d",&t);
for(i=1;i<=10;i++)
{
printf("%d*%d=%d\n",t,i,t*i);
}
getch();
}
TC
Enter table no 9
9*1=9
9*2=18
9*3=27
9*4=36
9*5=45
9*6=54
9*7=63
9*8=72
9*9=81
9*10=90


TC
Enter table no 4000
4000*1=4000
4000*2=8000
4000*3=12000
4000*4=16000
4000*5=20000
4000*6=24000
4000*7=28000
4000*8=32000
4000*9=-29536
4000*10=-25536
9:28 AM
03-Aug-24


TC
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 19 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int t,i;
clrscr();
printf("Enter table no "); scanf("%d",&t);
for(i=1;i<=10;i++)printf("%d*%d=%d\n",t,i,t*i);
getch();
}
TC
Enter table no 20
20*1=20
20*2=40
20*3=60
20*4=80
20*5=100
20*6=120
20*7=140
20*8=160
20*9=180
20*10=200

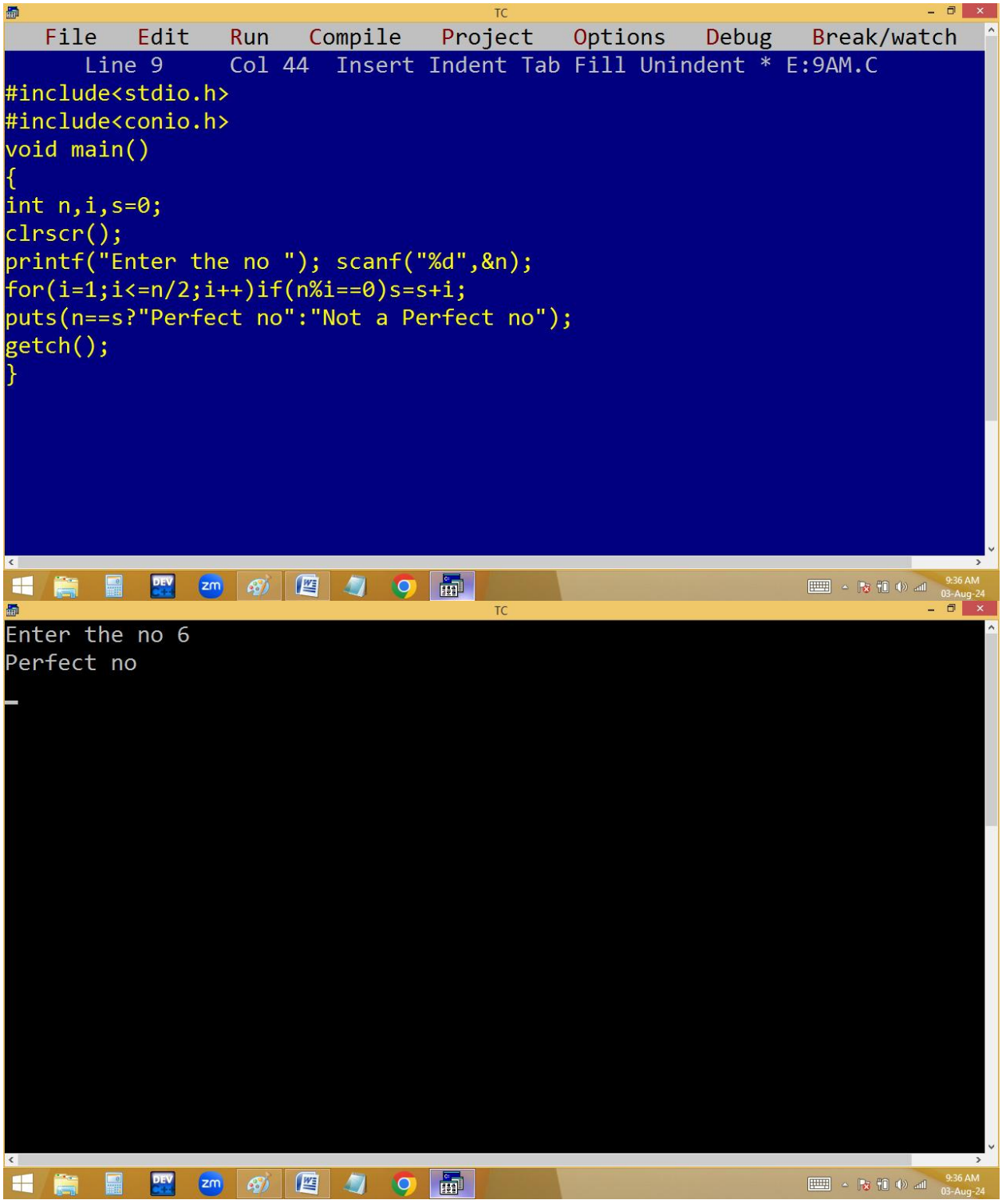


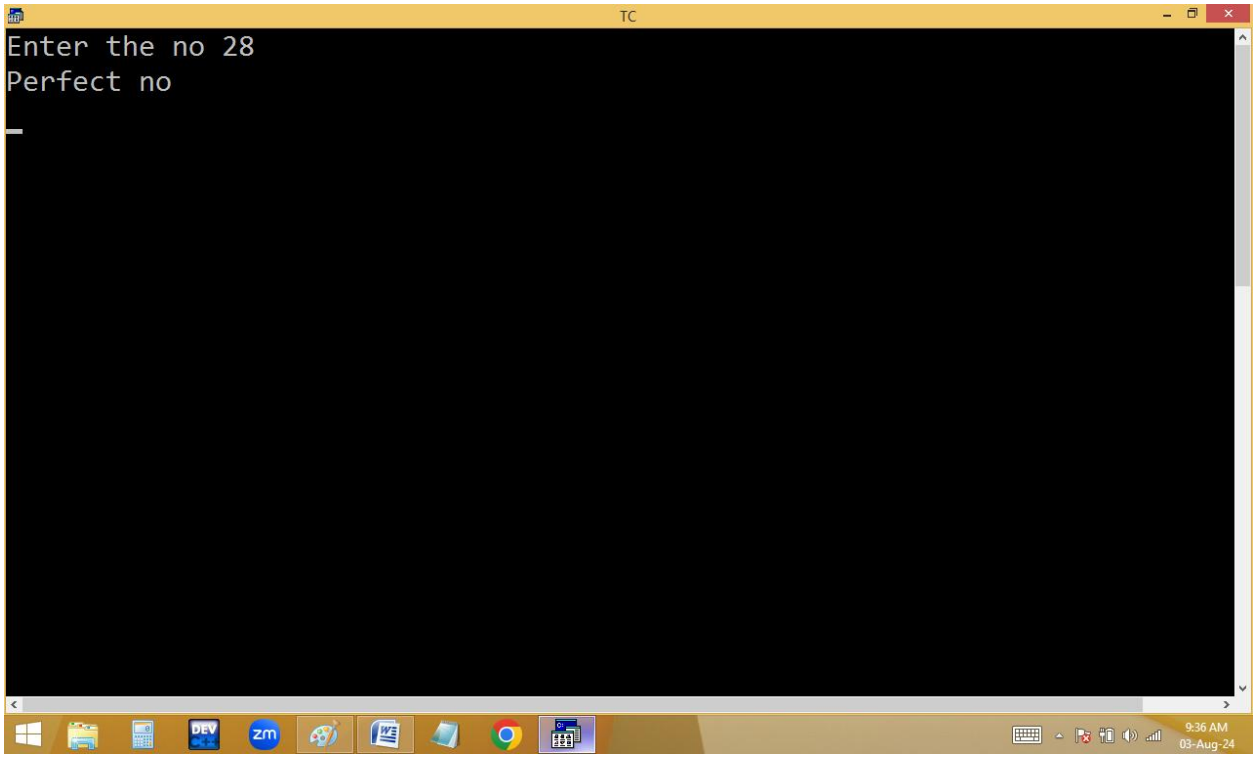
Finding perfect no:

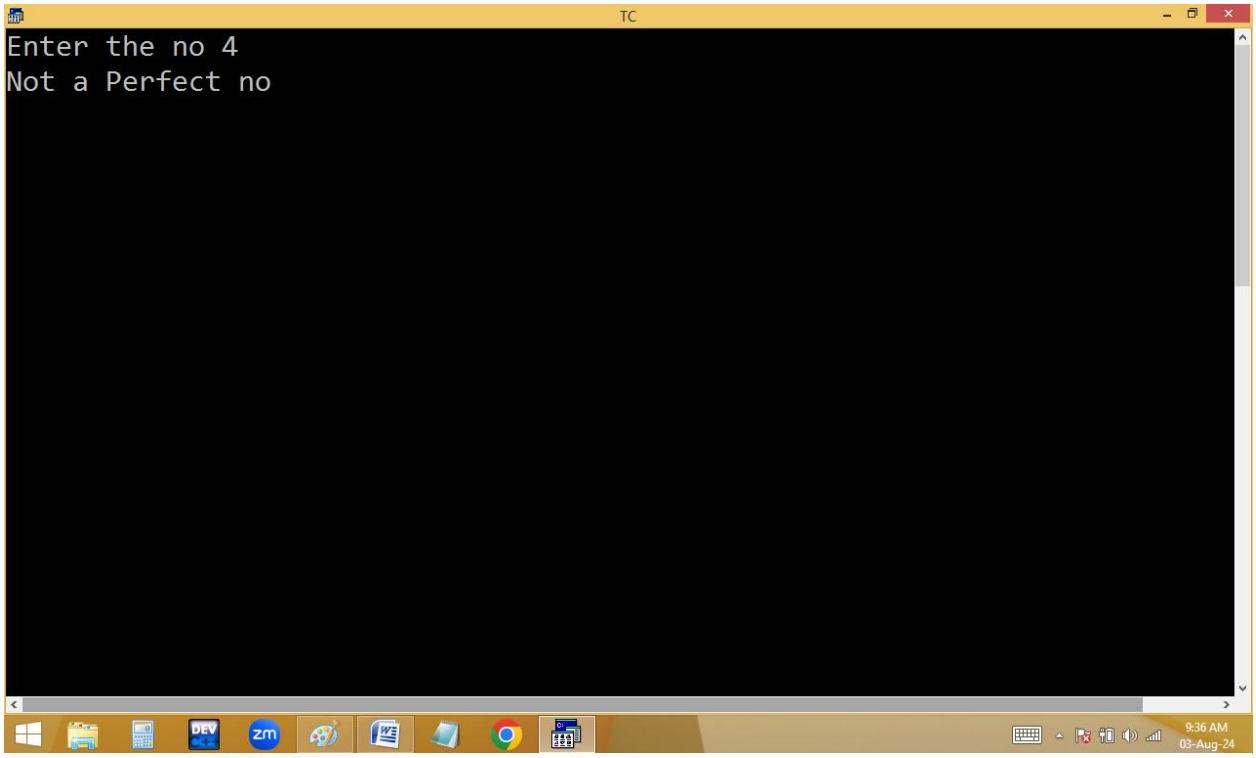
6 factors sum is 1+2+3=6

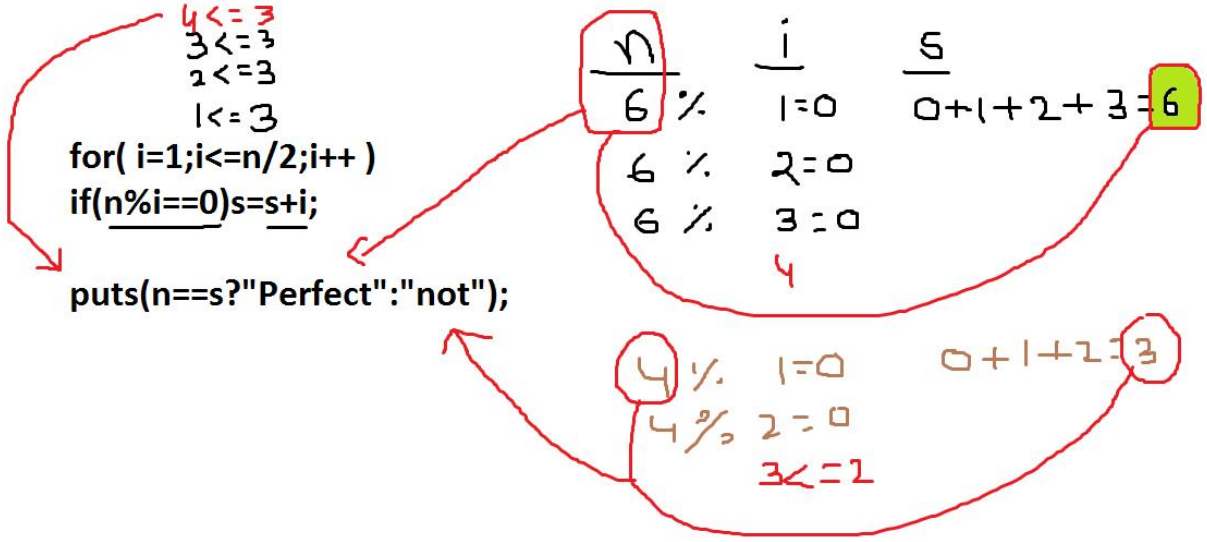
28 factors sum is 1+2+4+7+14=28

4 factors sum is 1+2=3 ← not a perfect no


TC
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 44 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int n,i,s=0;
clrscr();
printf("Enter the no "); scanf("%d",&n);
for(i=1;i<=n/2;i++)if(n%i==0)s=s+i;
puts(n==s?"Perfect no":"Not a Perfect no");
getch();
}
9:36 AM
03-Aug-24
TC
Enter the no 6
Perfect no
9:36 AM
03-Aug-24


TC
Enter the no 28
Perfect no
9:36 AM
03-Aug-24





Finding prime / composite no:

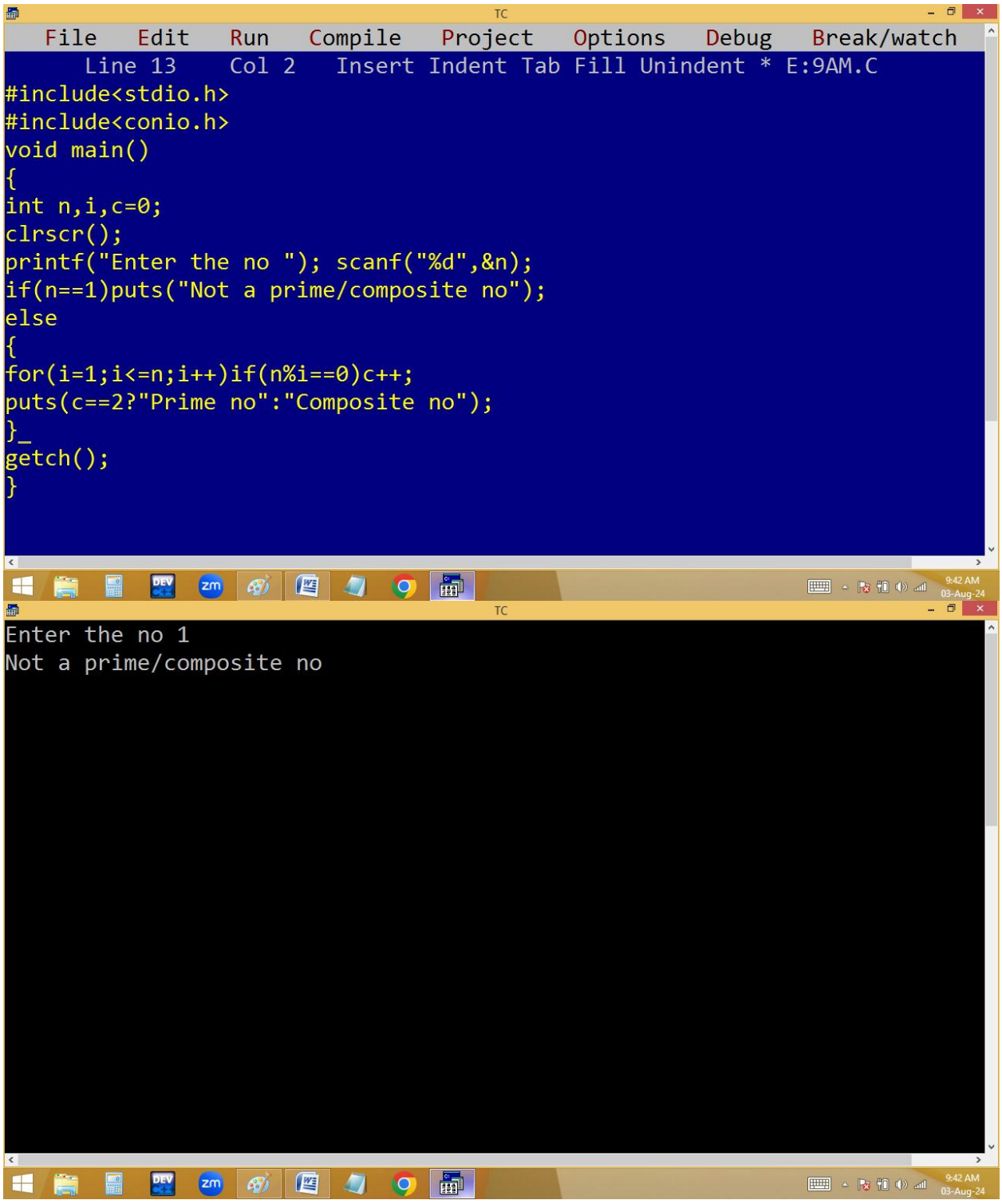
The no having 2 factors is called prime.

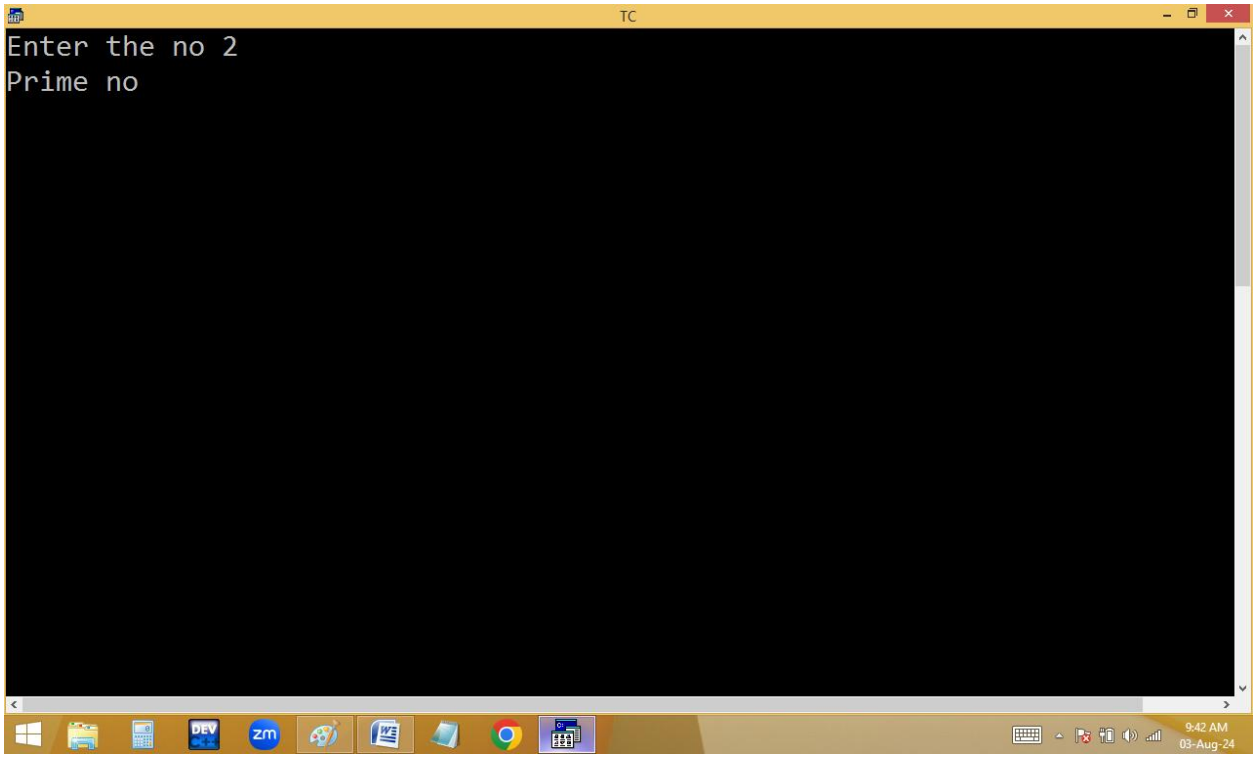
The no divisible with 1 and itself only is called prime.

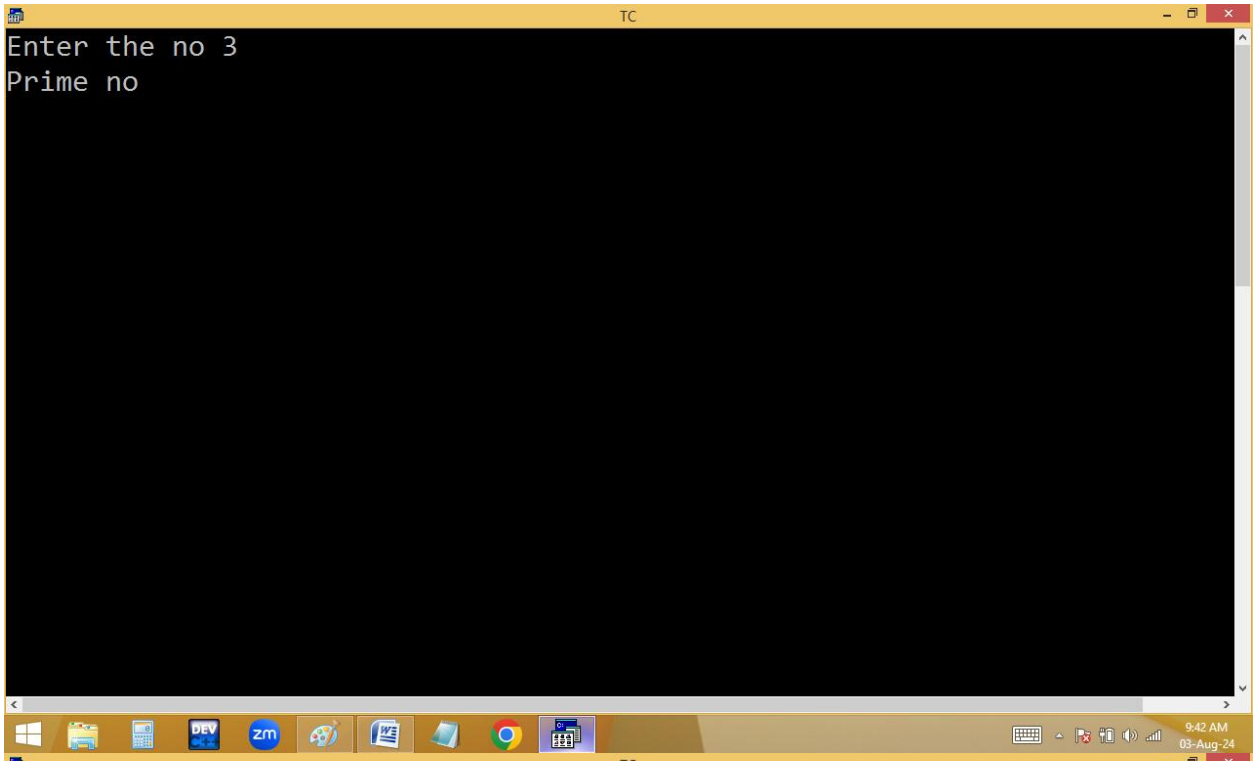
2 factors are 1, 2 ← prime

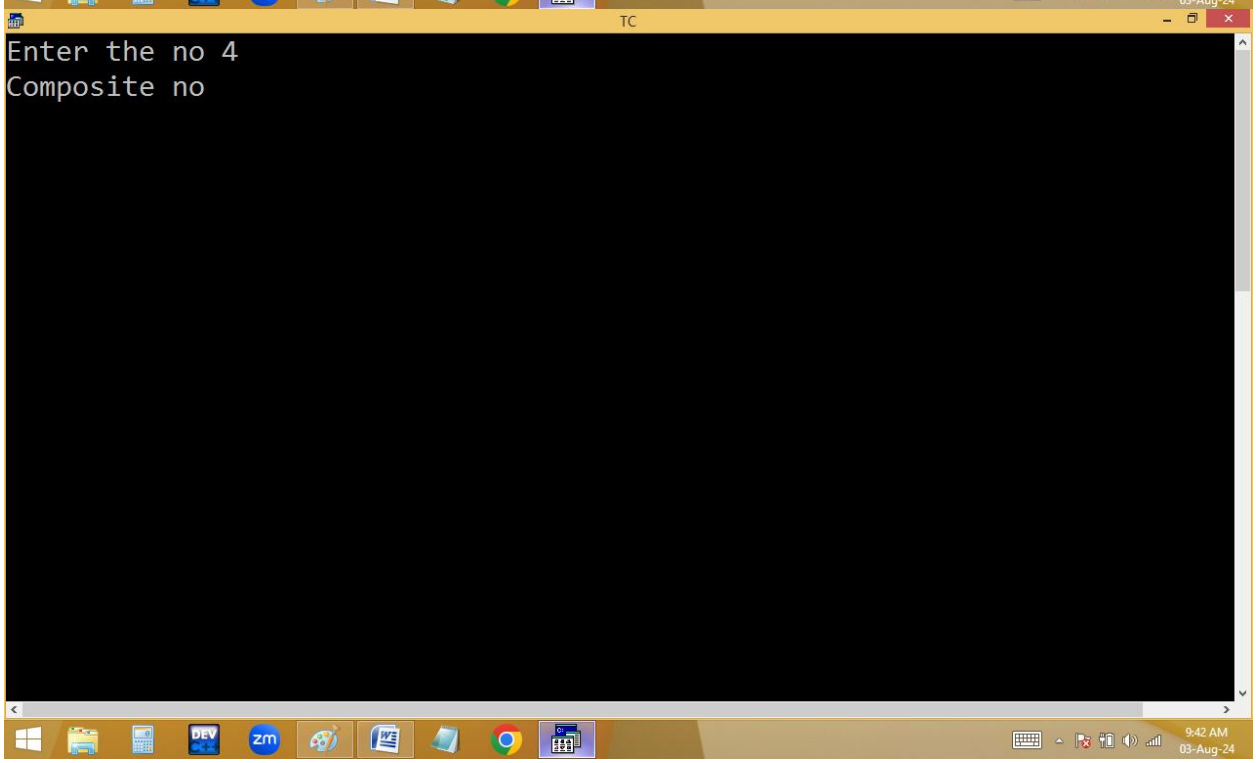
3 factors are 1, 3 ← prime

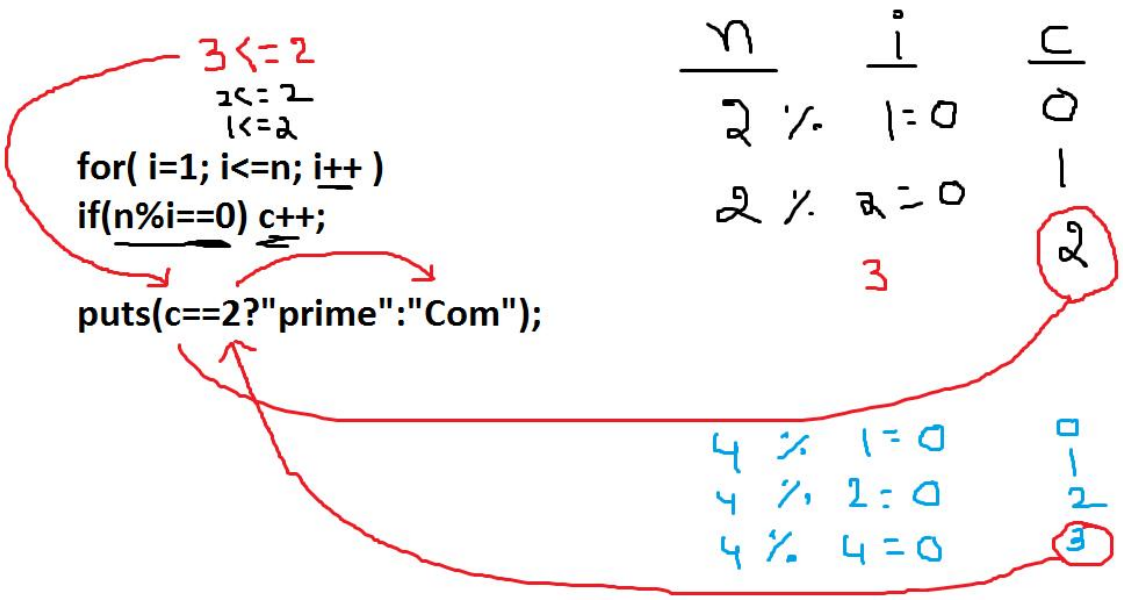
4 factors are 1, 2, 4 ← composite no



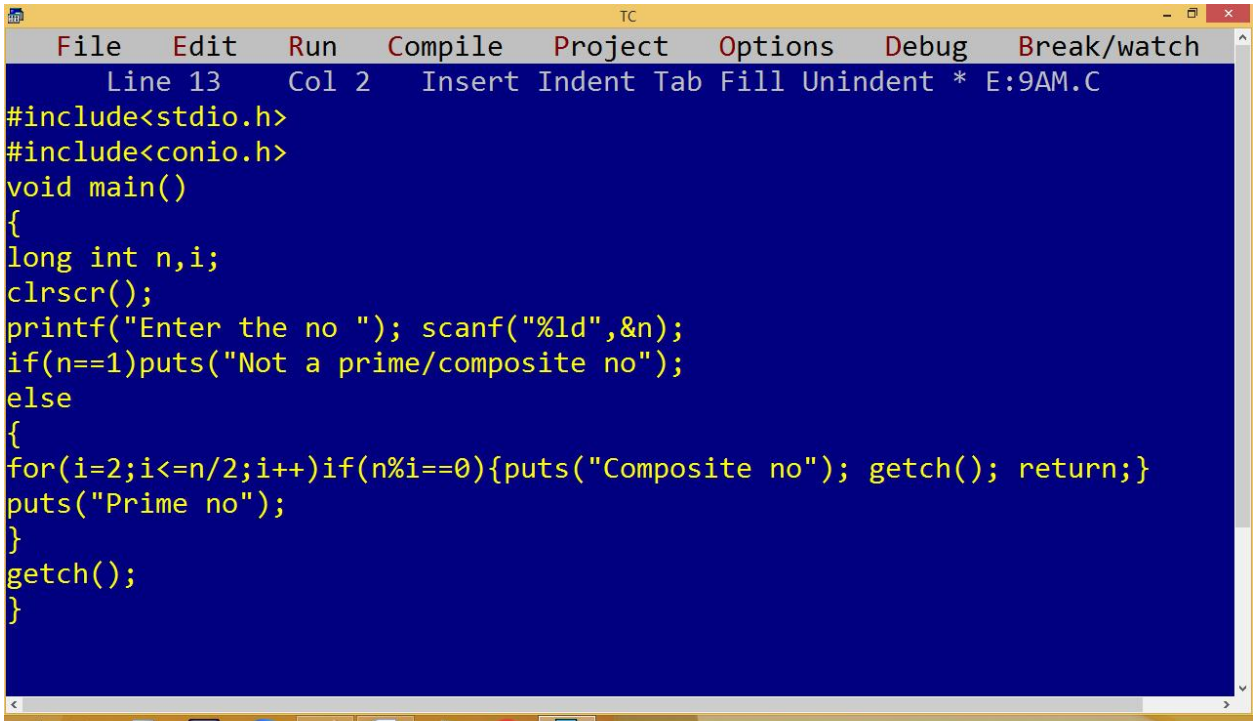

TC
Enter the no 2
Prime no
9:42 AM
03-Aug-24

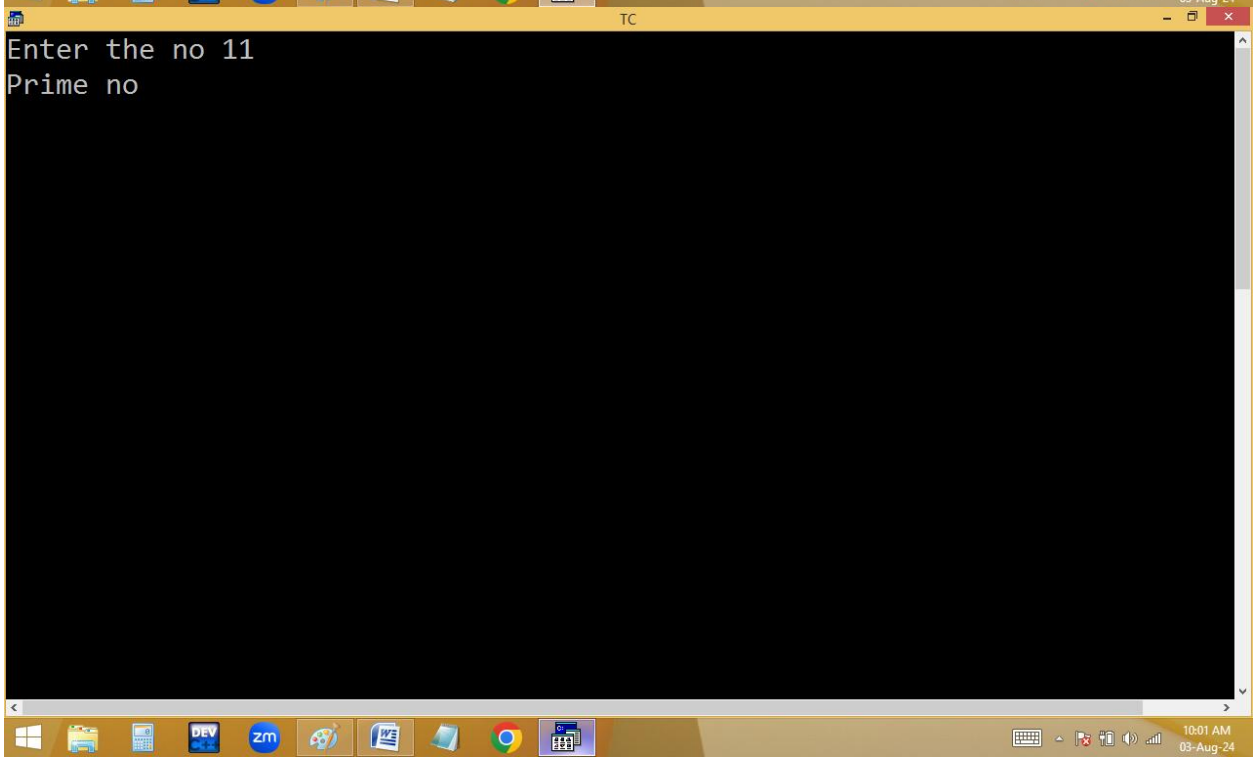

TC
Enter the no 3
Prime no
9:42 AM
03-Aug-24

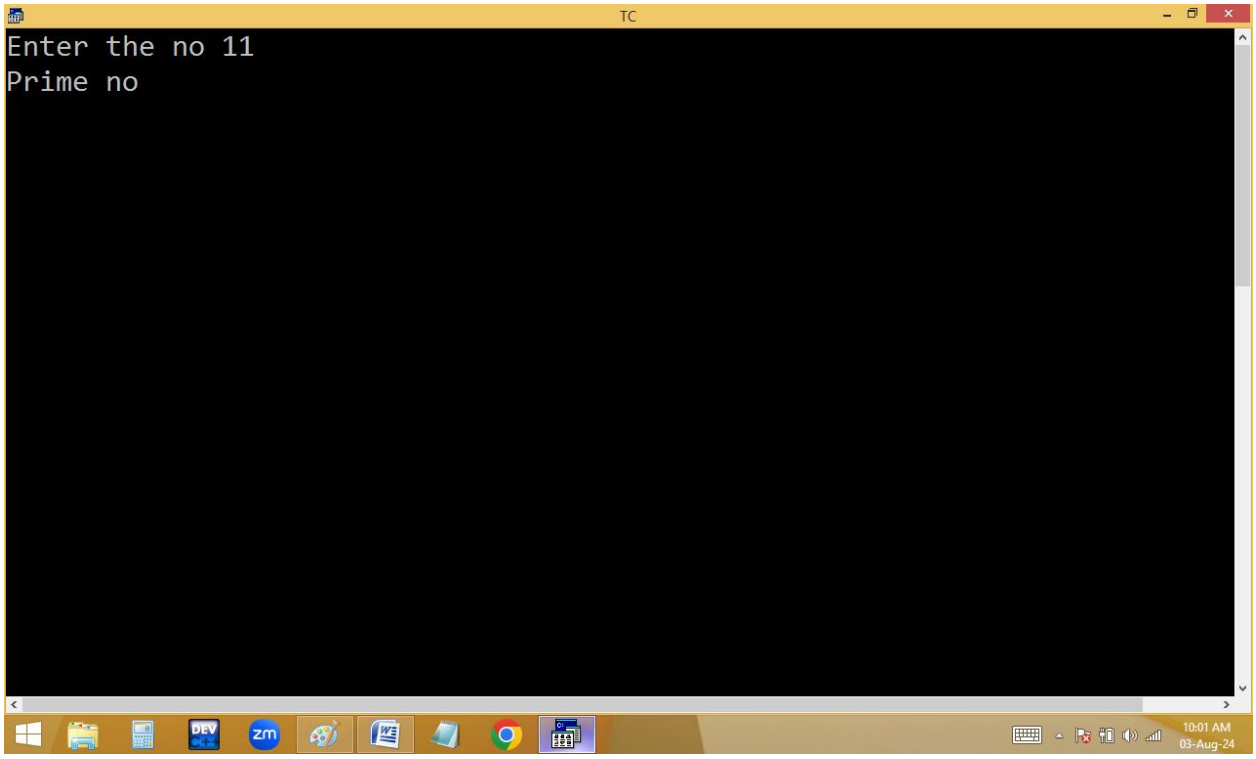

TC
Enter the no 4
Composite no
9:42 AM
03-Aug-24

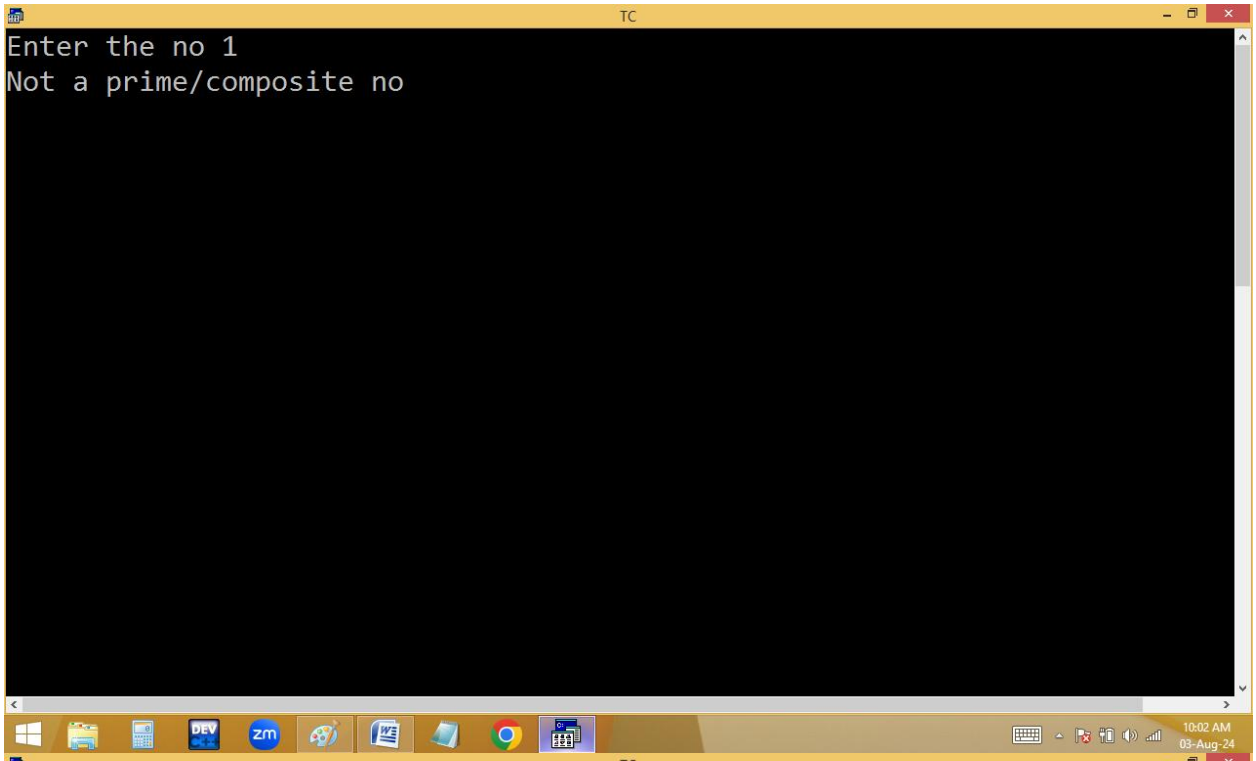

3<=2
2<=2
1<=2
for(i=1; i<=n; i++)
if(n%i==0) c++;
puts(c==2?"prime":"Com");
n
i
c
2 % 1=0
2 % 2=0
3
2
4 % 1=0
4 % 2=0
4 % 4=0
0
1
2
3

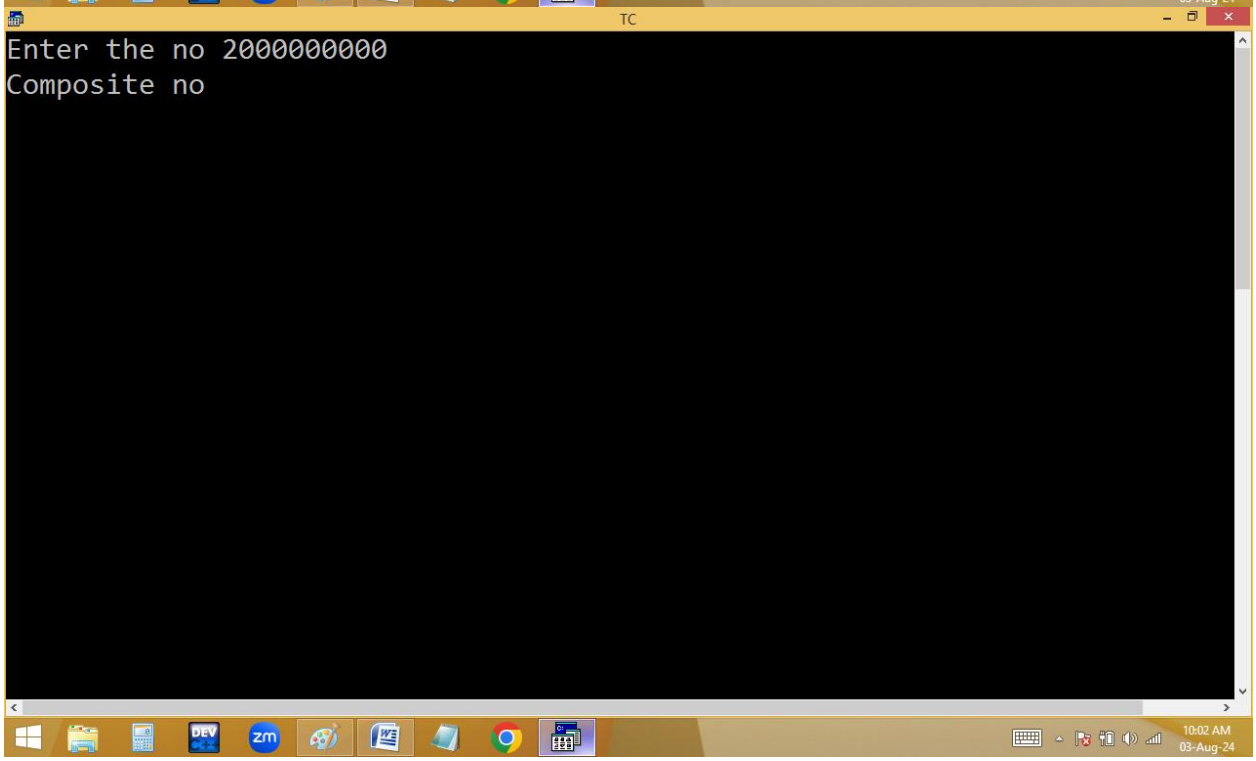
Method 2:


TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 2 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long int n,i;
clrscr();
printf("Enter the no "); scanf("%ld",&n);
if(n==1)puts("Not a prime/composite no");
else
{
for(i=2;i<=n/2;i++)if(n%i==0){puts("Composite no"); getch(); return;}
puts("Prime no");
}
getch();
}

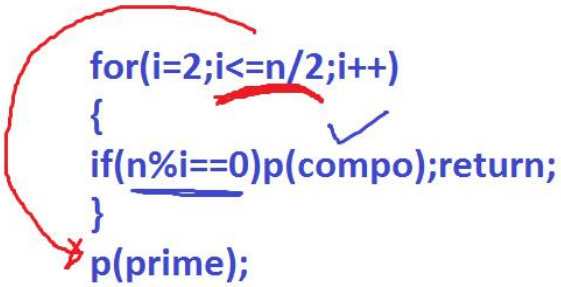

TC
Enter the no 11
Prime no

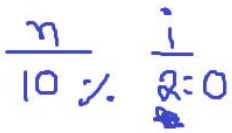

TC
Enter the no 11
Prime no
10:01 AM
03-Aug-24


TC
Enter the no 1
Not a prime/composite no

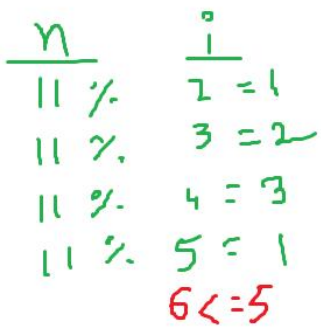

TC
Enter the no 2000000000
Composite no

10 factors 1 2 5 10
100 factors 1 2 4 5 10 20 25 50 100
5 factors 1 5
7 factors 1 7

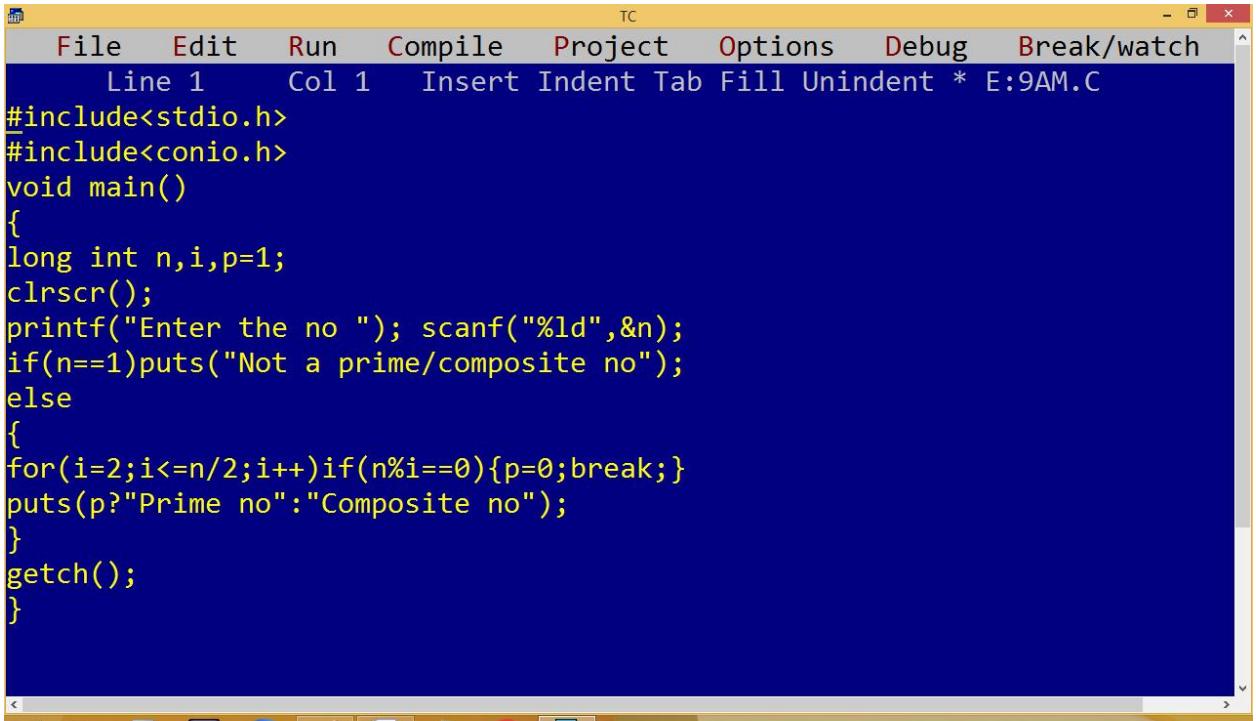


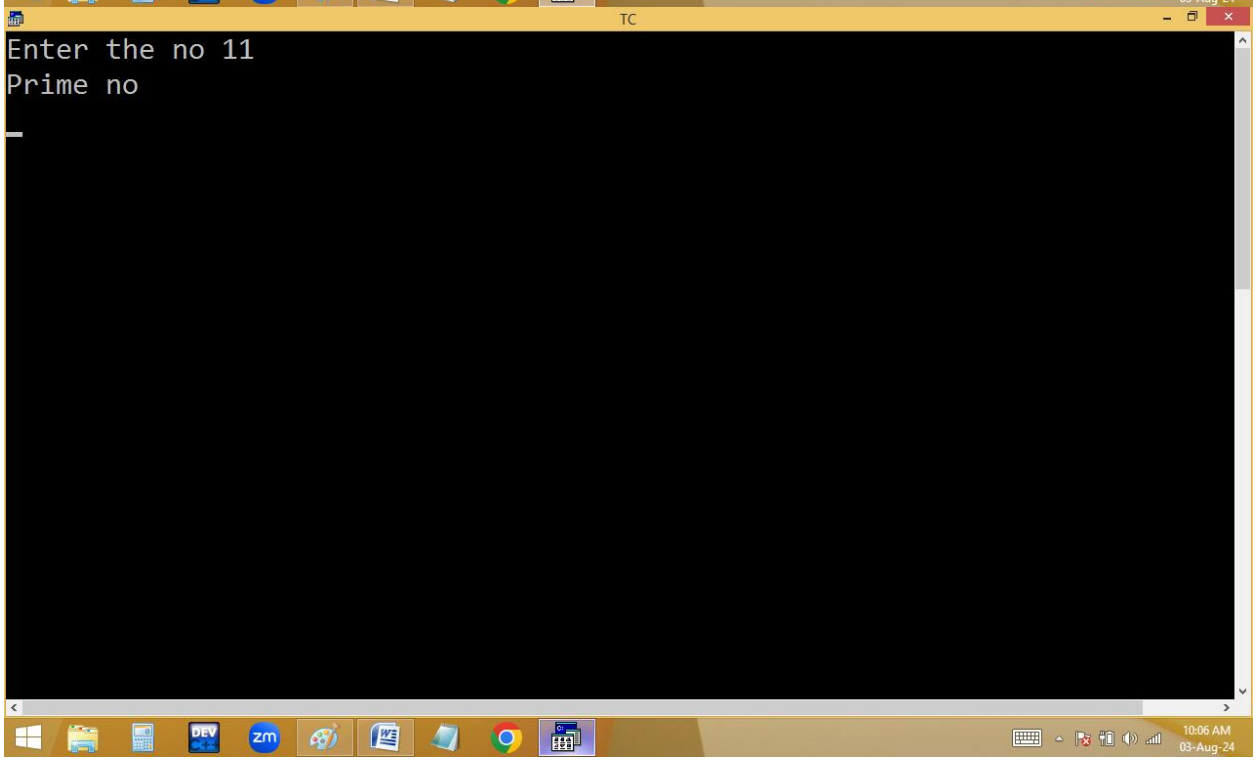


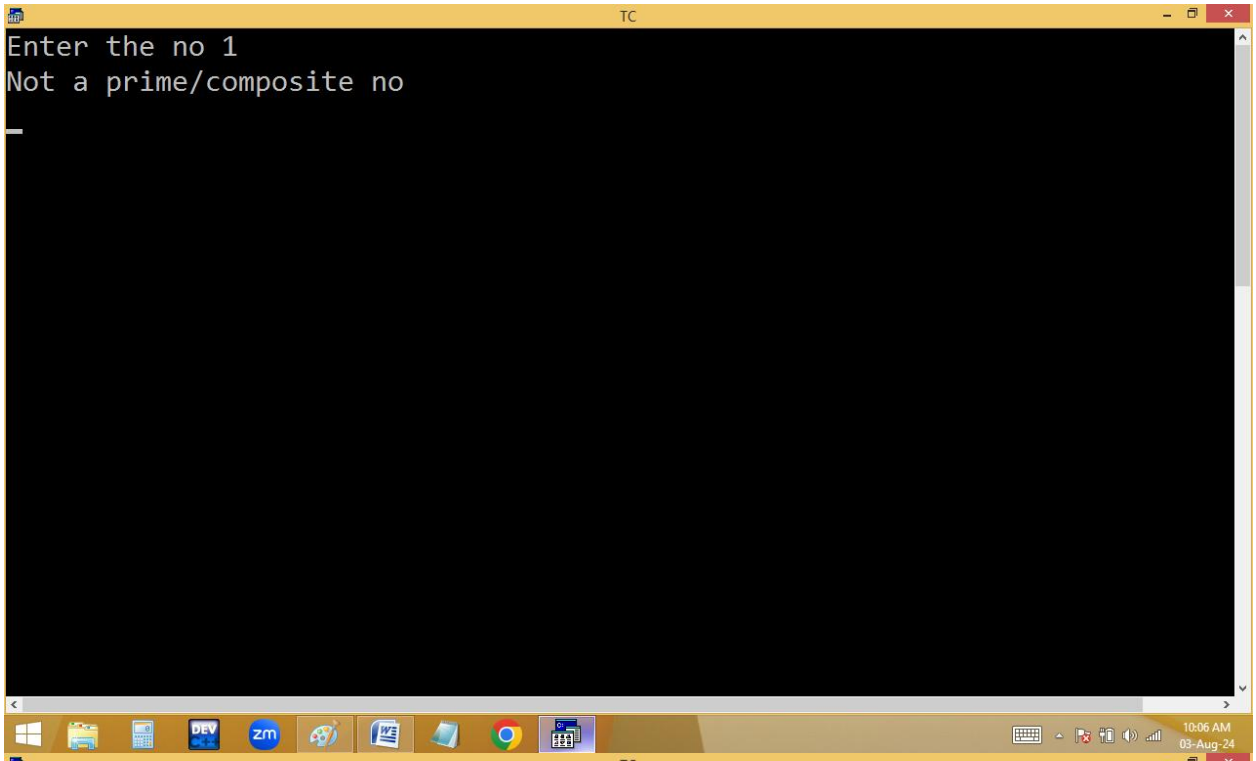
2000000000 % 2=0

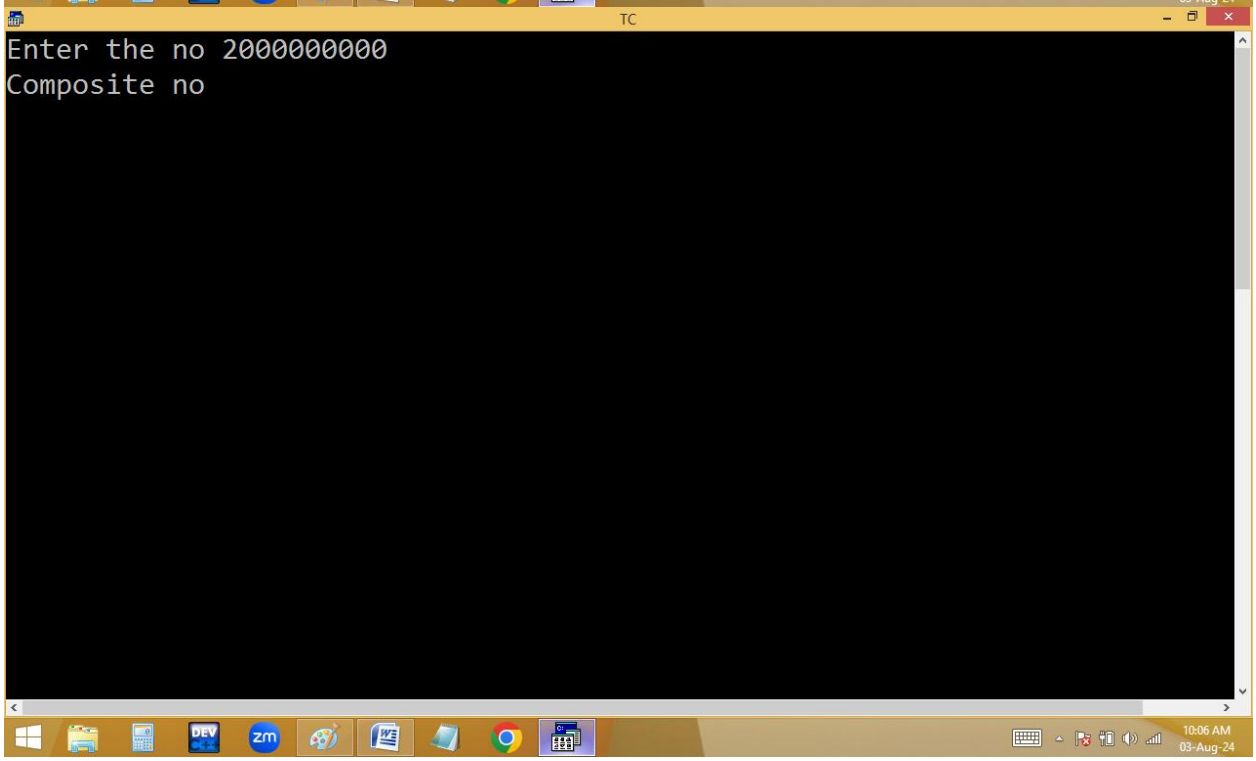


Method 3:


TC
File Edit Run Compile Project Options Debug Break/watch
Line 1 Col 1 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long int n,i,p=1;
clrscr();
printf("Enter the no "); scanf("%ld",&n);
if(n==1)puts("Not a prime/composite no");
else
{
for(i=2;i<=n/2;i++)if(n%i==0){p=0;break;}
puts(p?"Prime no":"Composite no");
}
getch();
}

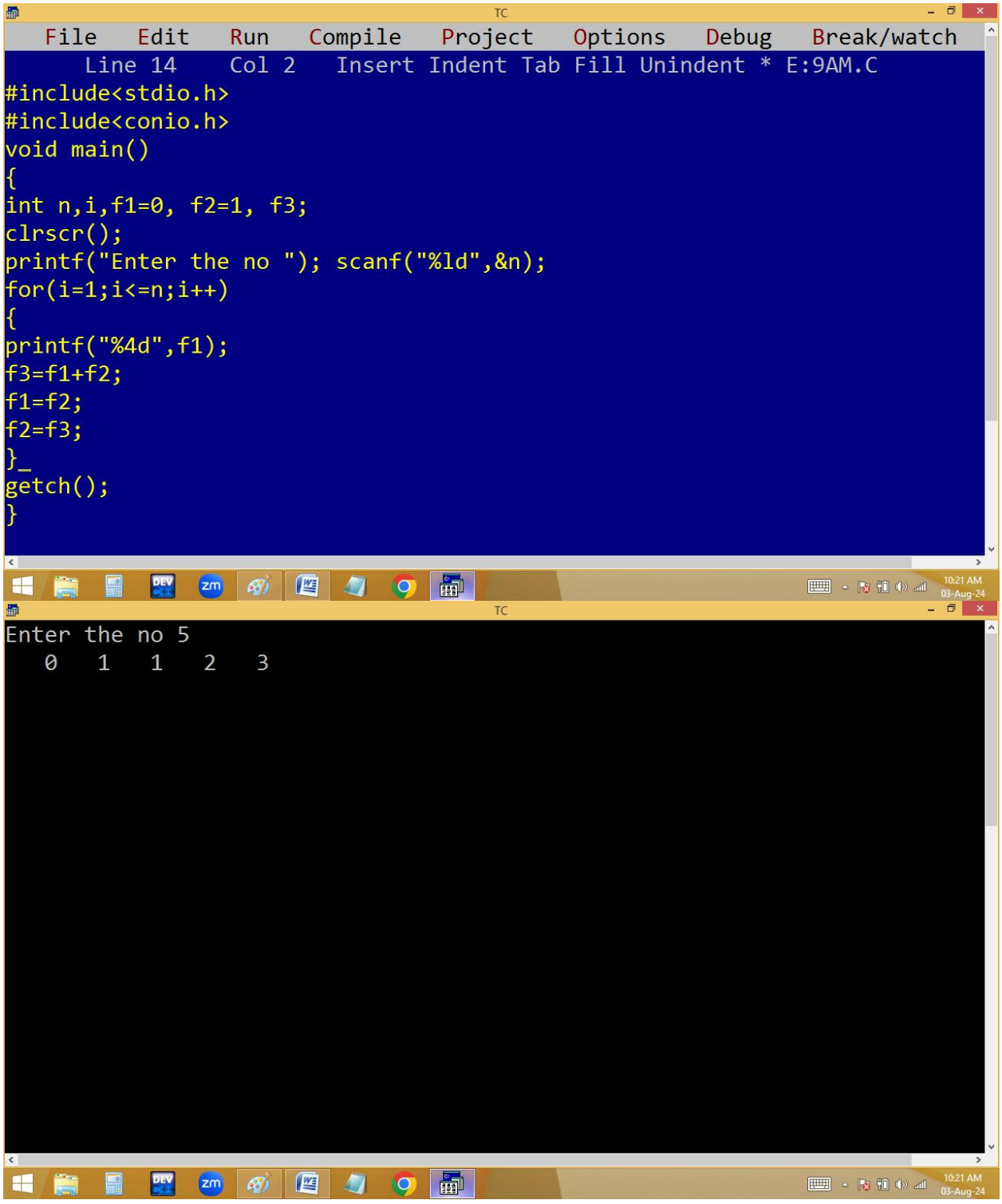

TC
Enter the no 11
Prime no


TC
Enter the no 1
Not a prime/composite no
10:06 AM
03-Aug-24


TC
Enter the no 2000000000
Composite no
10:06 AM
03-Aug-24

Fibonacci series:

n=5 ➔ 0 1 1 2 3


TC
File Edit Run Compile Project Options Debug Break/watch
Line 14 Col 2 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int n,i,f1=0, f2=1, f3;
clrscr();
printf("Enter the no "); scanf("%ld",&n);
for(i=1;i<=n;i++)
{
printf("%4d",f1);
f3=f1+f2;
f1=f2;
f2=f3;
}_
getch();
}
TC
Enter the no 5
0 1 1 2 3

```
for( i=1; i<=n ; i++ )
{
p(f1);
f3=f1+f2;
f1=f2;
f2=f3;
}
```

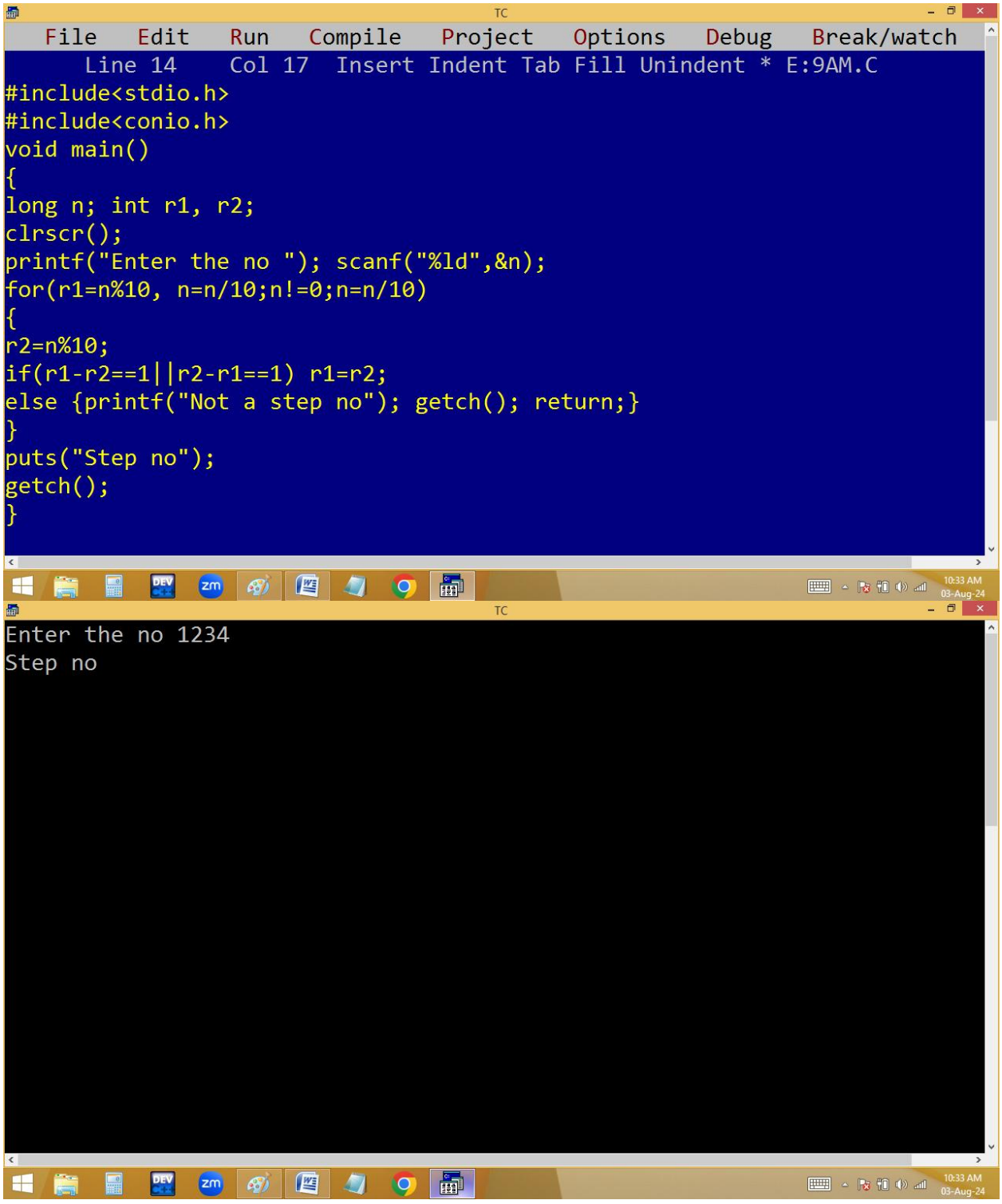
n	i	f1	f2	f3
5	1	0 +	1 =	1
	2	1 +	1 =	2
	3	1 +	2 =	3
	4	2 +	3 =	5
	5	3	5	
	6			

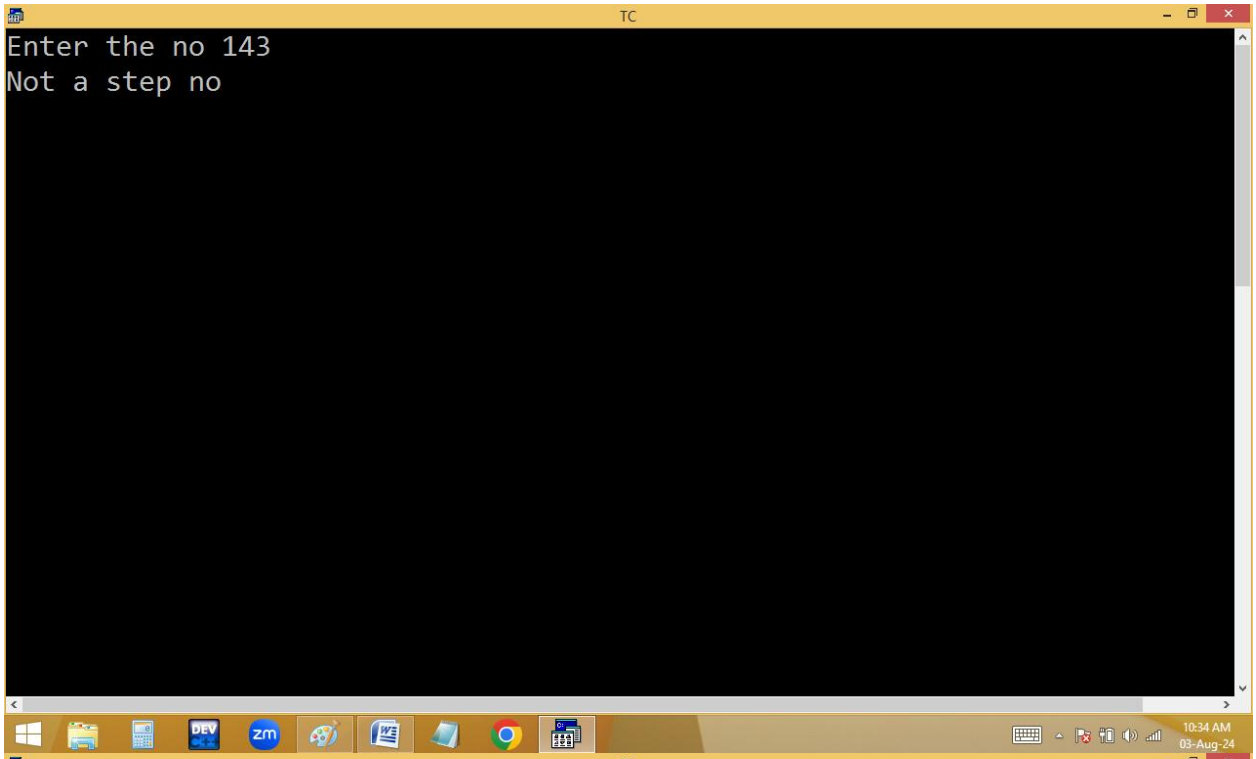
0 1 1 2 3

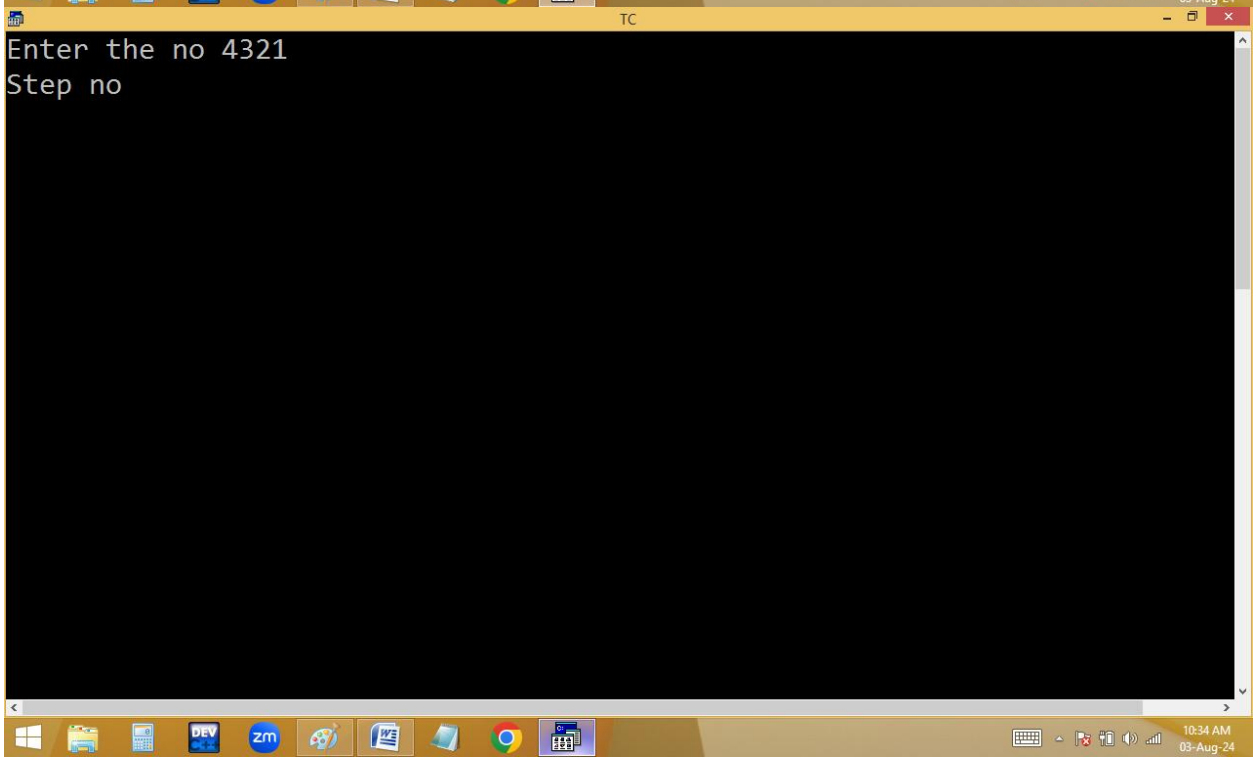
Finding step no.

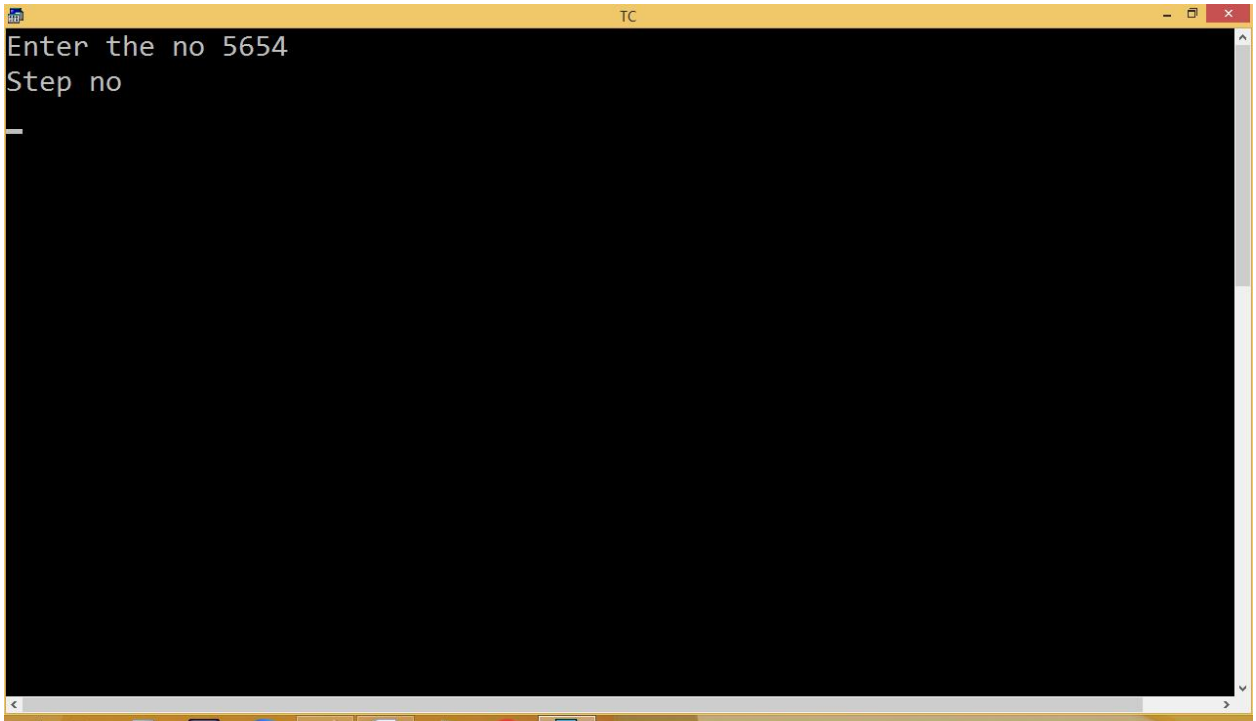
1234 / 4321 ← step no

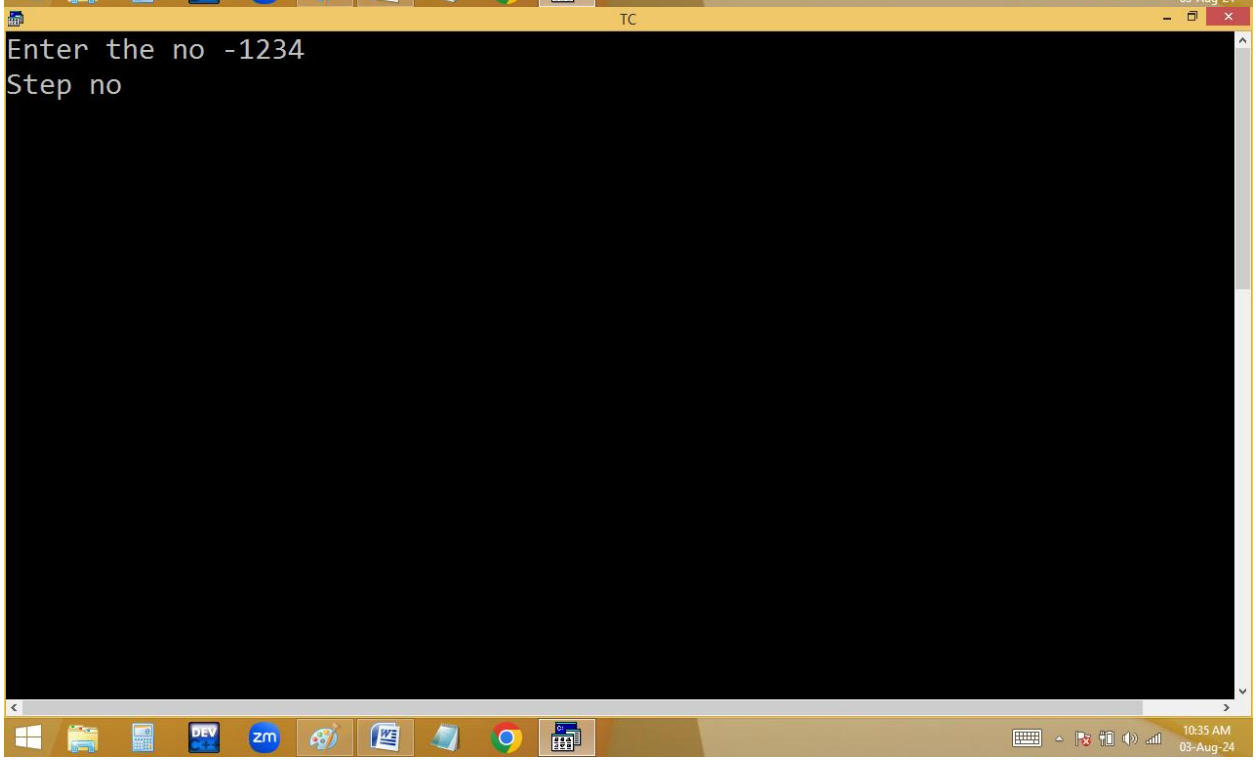
1245 ← not a step no

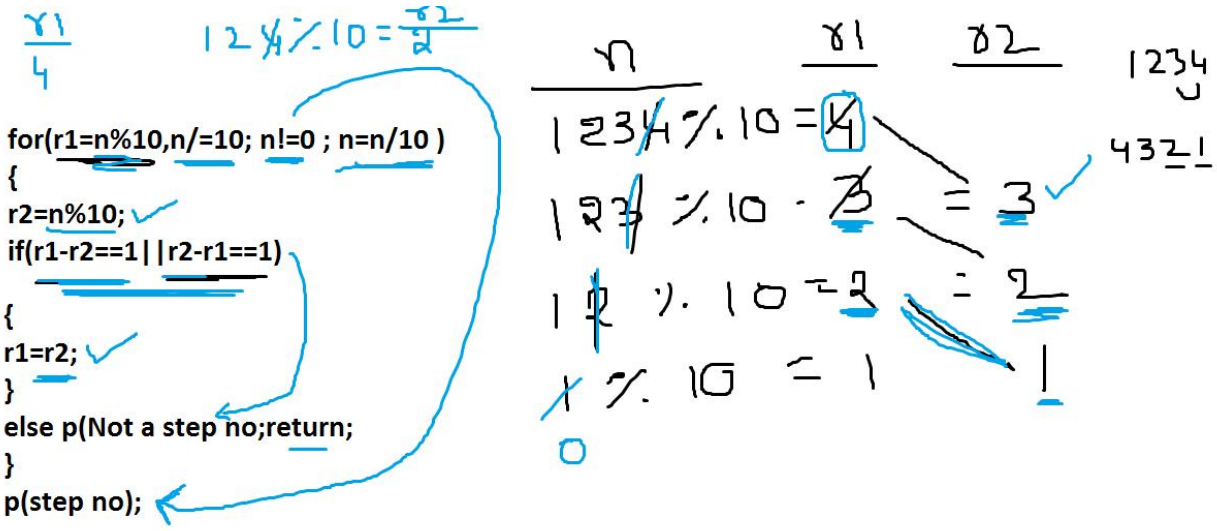

TC
File Edit Run Compile Project Options Debug Break/watch
Line 14 Col 17 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
long n; int r1, r2;
clrscr();
printf("Enter the no "); scanf("%ld",&n);
for(r1=n%10, n=n/10;n!=0;n=n/10)
{
r2=n%10;
if(r1-r2==1||r2-r1==1) r1=r2;
else {printf("Not a step no"); getch(); return;}
}
puts("Step no");
getch();
}
10:33 AM
03-Aug-24
TC
Enter the no 1234
Step no
10:33 AM
03-Aug-24


TC
Enter the no 143
Not a step no
10:34 AM
03-Aug-24


TC
Enter the no 4321
Step no
10:34 AM
03-Aug-24

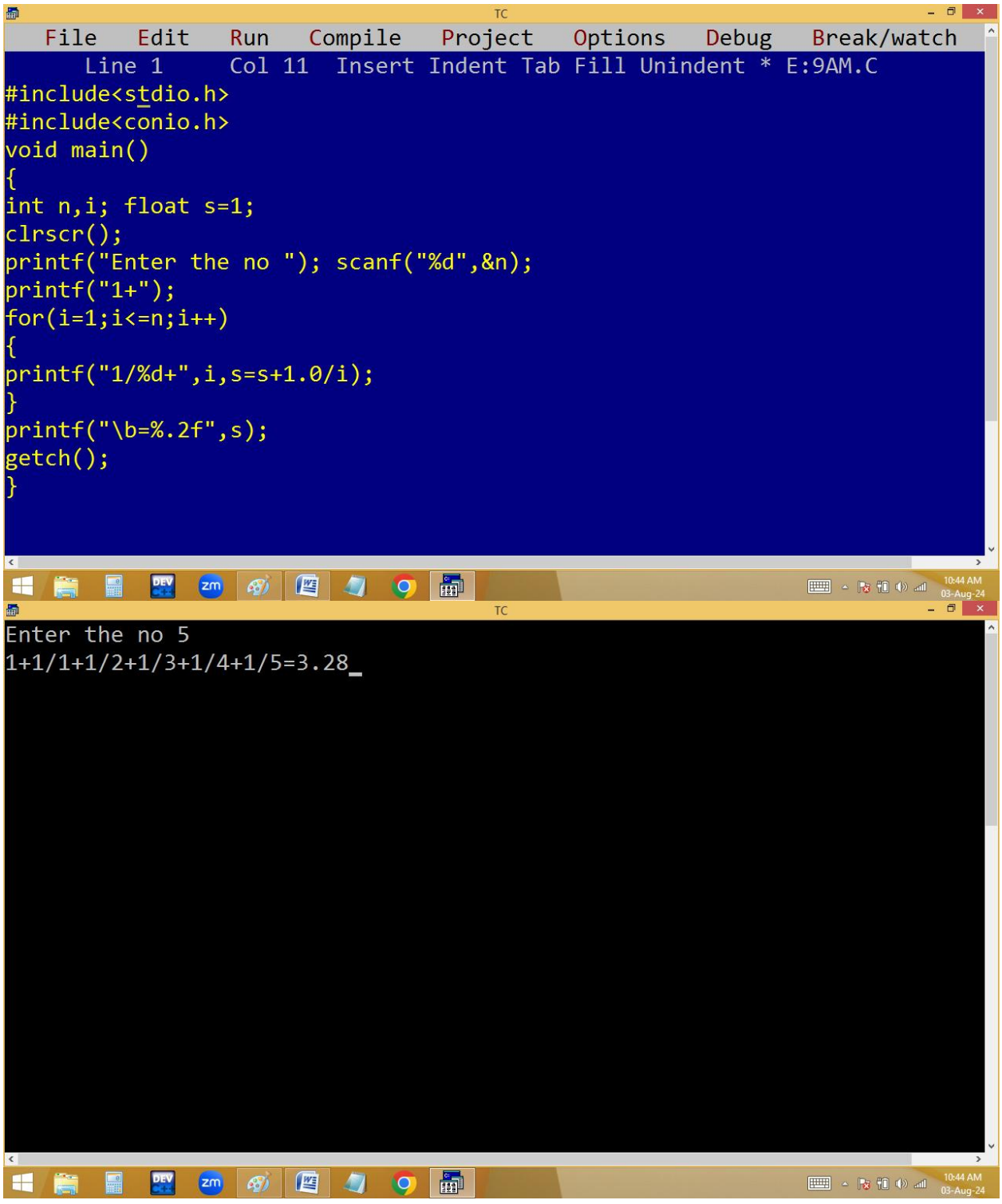

TC
Enter the no 5654
Step no
10:34 AM
03-Aug-24


TC
Enter the no -1234
Step no
10:35 AM
03-Aug-24



Harmonic series:

n=5 ➔ 1+1/1+1/2+1/3+1/4+1/5=3.28


TC
File Edit Run Compile Project Options Debug Break/watch
Line 1 Col 11 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int n,i; float s=1;
clrscr();
printf("Enter the no "); scanf("%d",&n);
printf("1+");
for(i=1;i<=n;i++)
{
printf("1/%d+",i,s=s+1.0/i);
}
printf("\b=%.2f",s);
getch();
}
TC
Enter the no 5
1+1/1+1/2+1/3+1/4+1/5=3.28

n	i	s
5	1	1+1
	2	2+.5 = 2.5
		3.28

```
p("1+");
for( i=1; i<=n; i++ )
{
p("1/%d+",i,s=s+1.0/i);
}
p("=%.2f",s);
```

1 + 1/1 + 1/2 + 1/3 + 1/4 + 1/5
= 3.28