

**Printing given table:**

Print 9<sup>th</sup> table

$$9*1=9$$

$$9*2=18$$

...;

...;

$$9*10=90$$

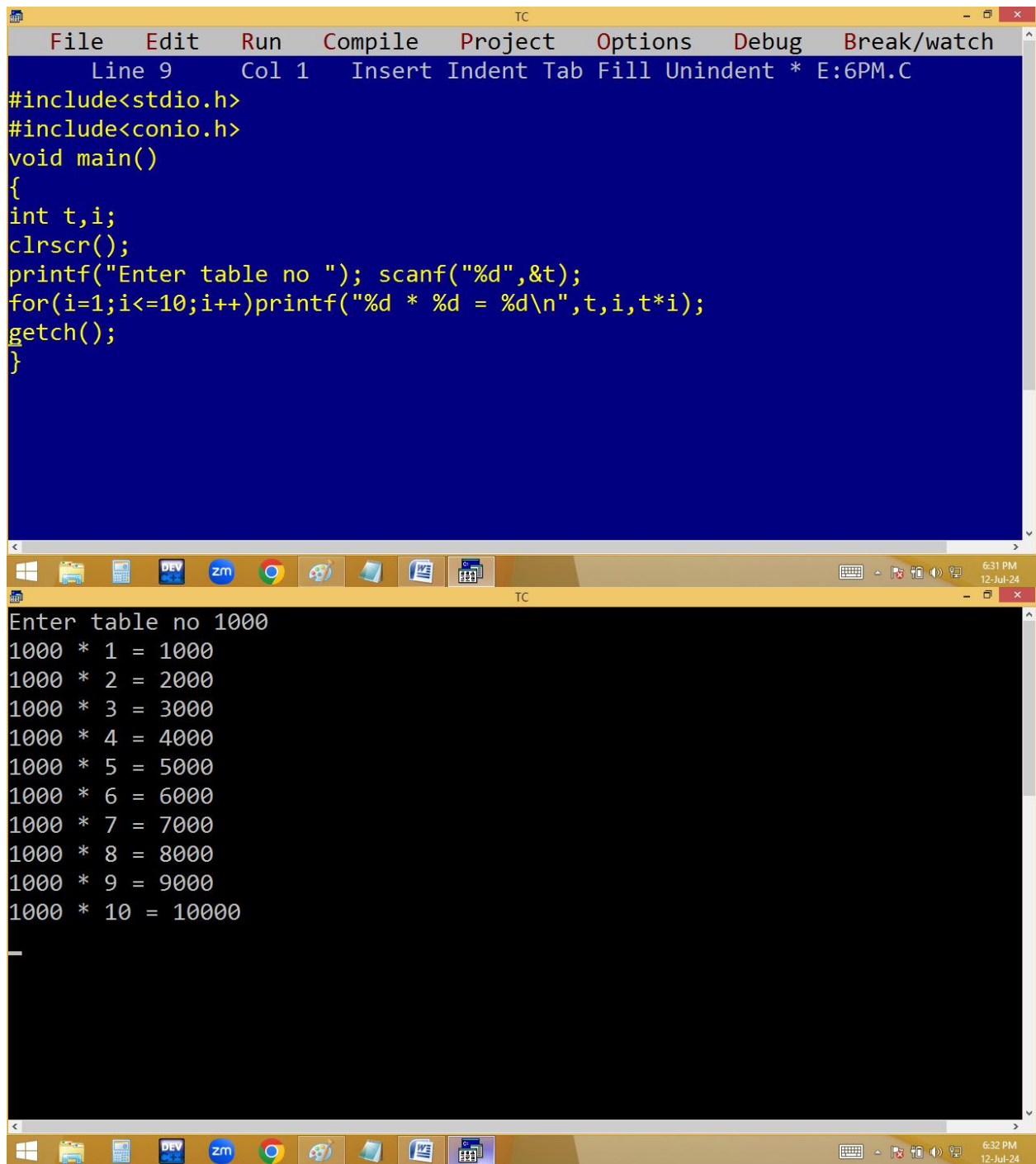
The image shows two screenshots of the Turbo C++ (TC) IDE. The top screenshot displays the source code for a program that calculates a multiplication table for a given number. The code is as follows:

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 2 Insert Indent Tab Fill Unindent * E:6PM.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();
}
```

The bottom screenshot shows the output of the program after execution. The user has entered '9' as the table number, and the program has printed the multiplication table for 9:

```
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
```

The IDE's taskbar at the bottom of both screenshots shows various application icons, including Windows Explorer, DEV C++, Zoom, Google Chrome, and others. The system clock in the bottom right corner indicates the time is 6:30 PM on 12-Jul-24.

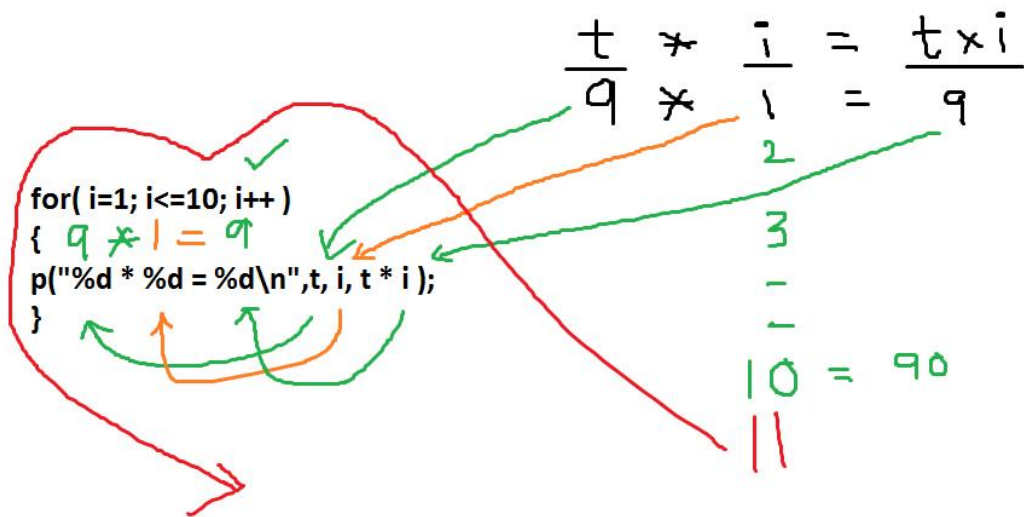


The image displays two windows from the Turbo C++ (TC) IDE. The top window, titled 'TC', shows the source code of a C program. The code includes headers for `stdio.h` and `conio.h`, and defines a `main` function. Inside `main`, it declares variables `t` and `i` as integers, clears the screen with `clrscr()`, prompts the user to enter a table number using `scanf`, and then uses a `for` loop to print multiplication results from 1 to 10. The bottom window, also titled 'TC', shows the program's execution. It displays the prompt 'Enter table no 1000' and the resulting multiplication table for 1000, listing products from 1000 \* 1 to 1000 \* 10.

```
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 1 Insert Indent Tab Fill Unindent * E:6PM.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();
}
```

Enter table no 1000

1000 \* 1 = 1000  
1000 \* 2 = 2000  
1000 \* 3 = 3000  
1000 \* 4 = 4000  
1000 \* 5 = 5000  
1000 \* 6 = 6000  
1000 \* 7 = 7000  
1000 \* 8 = 8000  
1000 \* 9 = 9000  
1000 \* 10 = 10000



**Finding perfect no or not:** if factors sum is equal to given no it is a perfect no

**6** factors are  $1 + 2 + 3 = 6$

**28** factors are  $1 + 2 + 4 + 7 + 14 = 28$

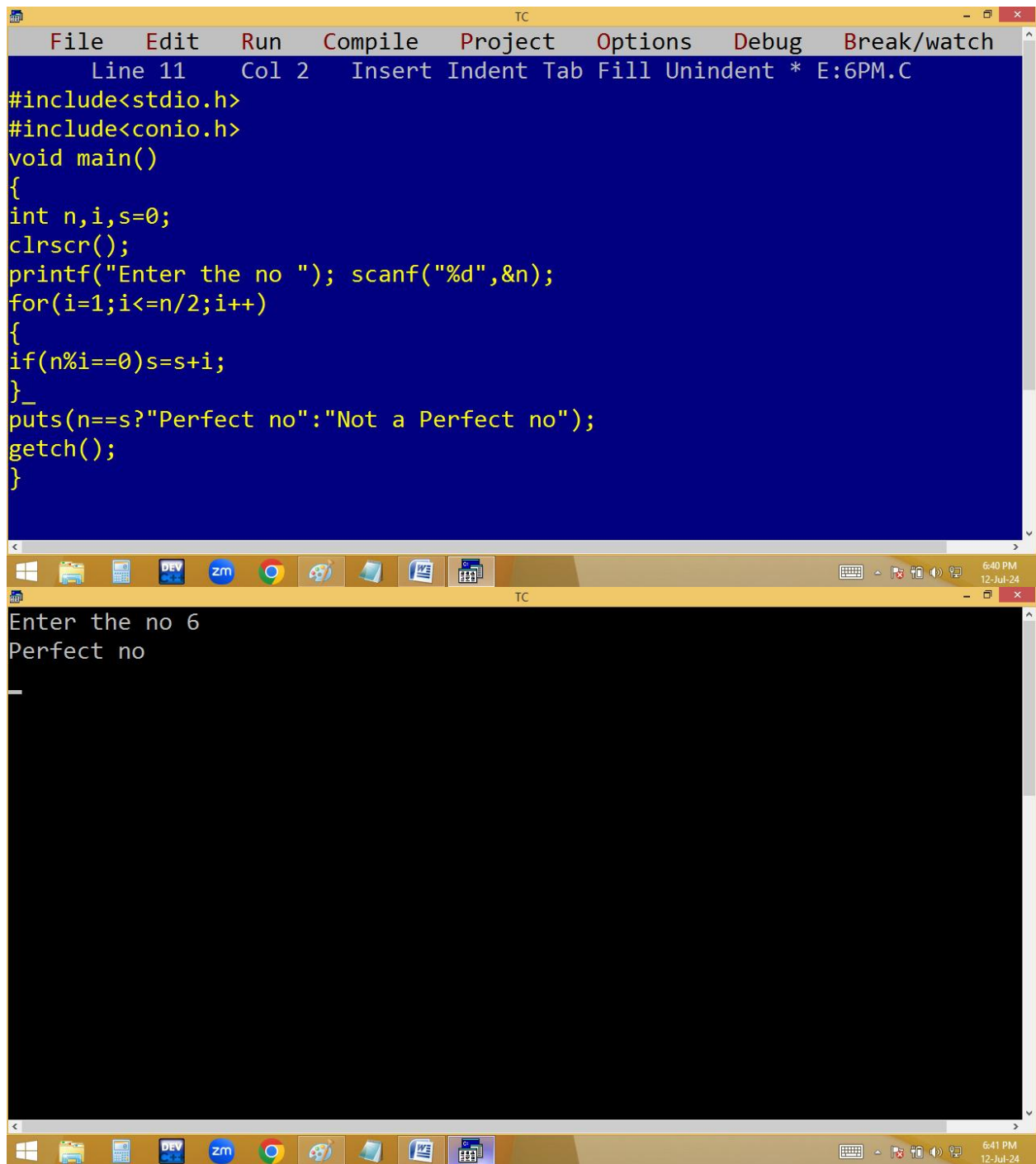
**4** factors sum is  $1+2 = 3 \leftarrow$  not a perfect no

$$6 \% 1 = 0 \checkmark$$

$$6 \% 2 = 0 \checkmark$$

$$6 \% 3 = 0 \checkmark$$

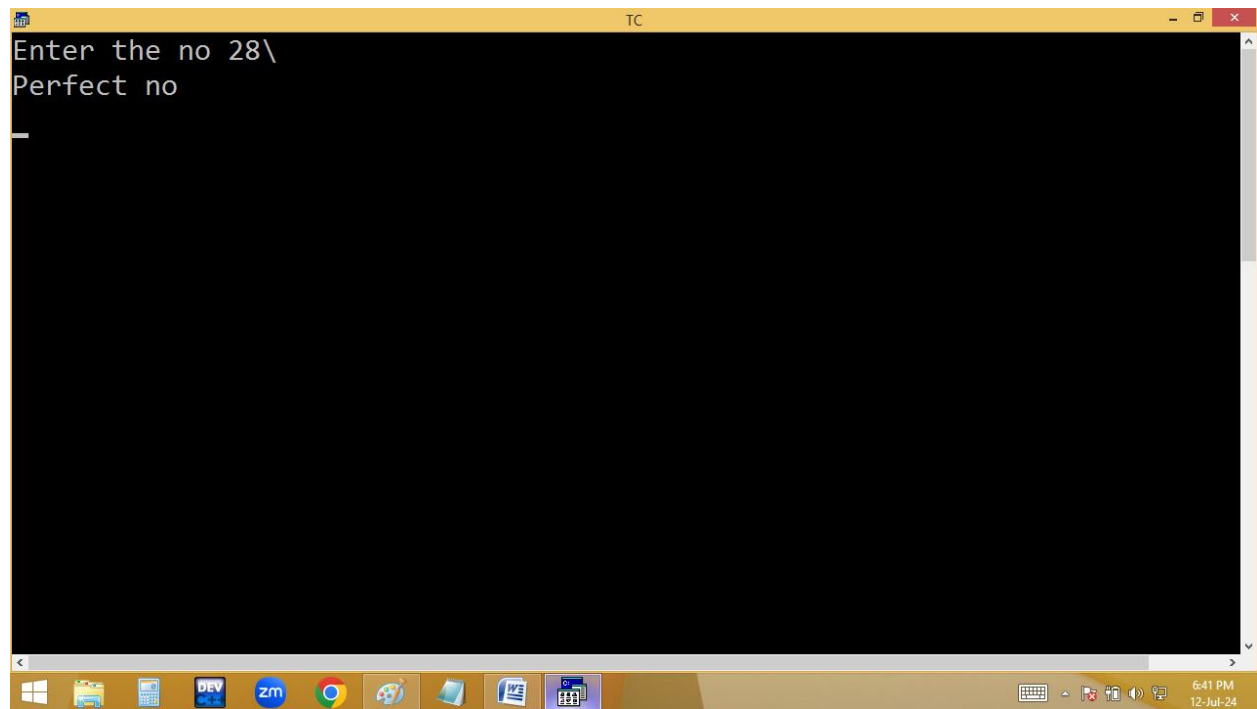
~~$$6 \% 6 = 0$$~~



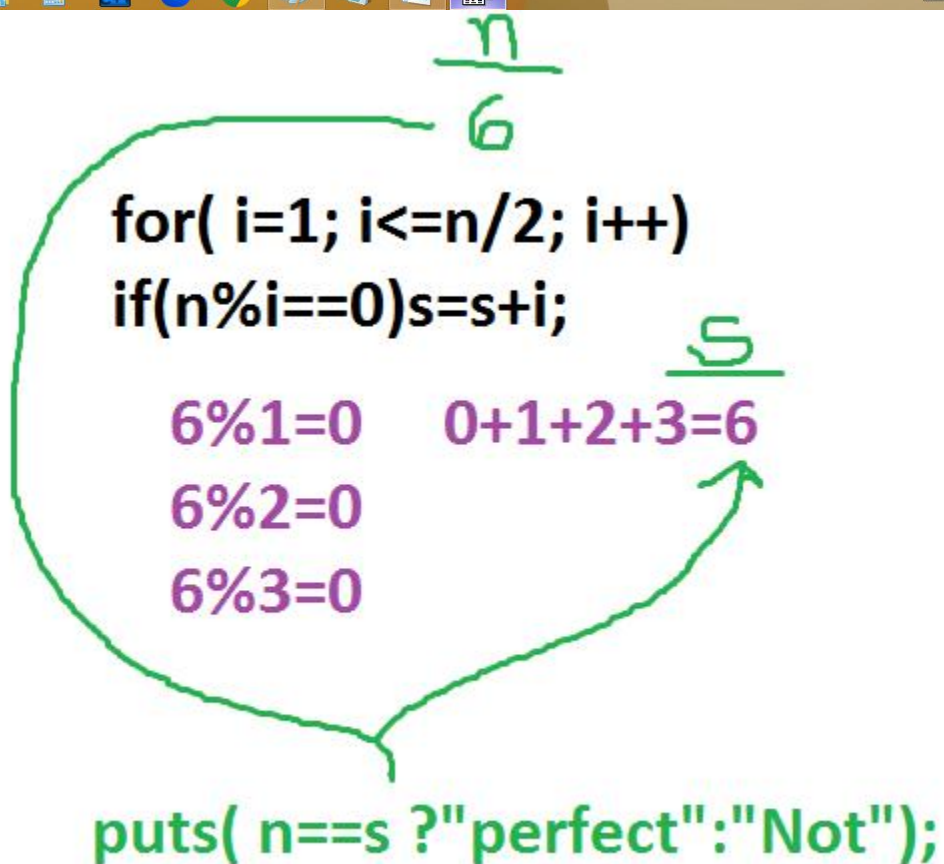
```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 2 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int n,i,s=0;
clrscr();
printf("Enter the no "); scanf("%d",&n);
for(i=1;i<=n/2;i++)
{
if(n%i==0)s=s+i;
}_
puts(n==s?"Perfect no":"Not a Perfect no");
getch();
}
```

Enter the no 6  
Perfect no

6:40 PM  
12-Jul-24



```
TC
Enter the no 4
Not a Perfect no
```



FINDING PRIME / COMPOSITE NO:



NO DIVISIBLE WITH 1 AND ITSELF IS A PRIME

NO HAVING 2 FACTORS IS CALLED PRIME

1 DIVISIBLE WITH 1 AND 1

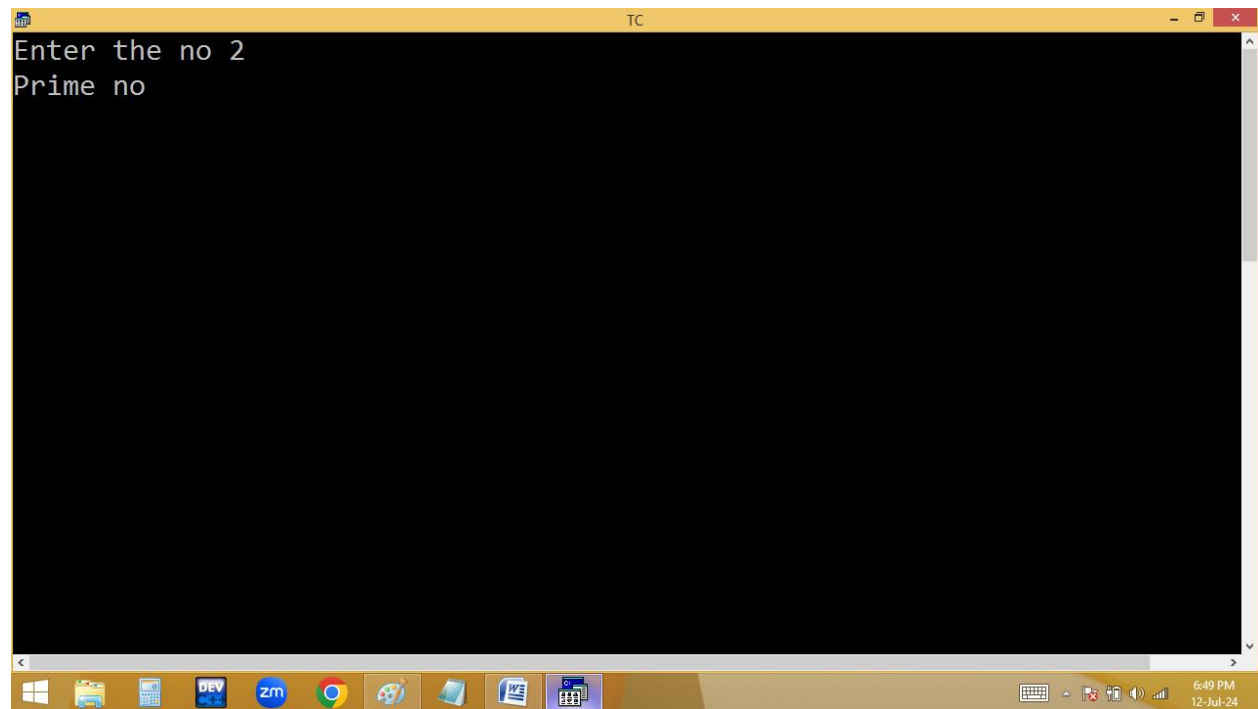
2 divisible with 1 and 2 ← prime no's

3 divisible with 1 and 3

4 divisible with 1, 2, 4 ← 3factoris ← composite no

```
TC
#include<stdio.h>
#include<conio.h>
void main()
{
int n,i,c=0;
clrscr();
printf("Enter the no "); scanf("%d",&n);
if(n==1) puts("Not a prime/composite ");
else
{
for(i=1;i<=n;i++)
{
if(n%i==0)c++;
}
puts(c==2?"Prime no":"composite no");
}
getch();
}

TC
Enter the no 1
Not a prime/composite
6:48 PM
12-Jul-24
6:49 PM
12-Jul-24
```

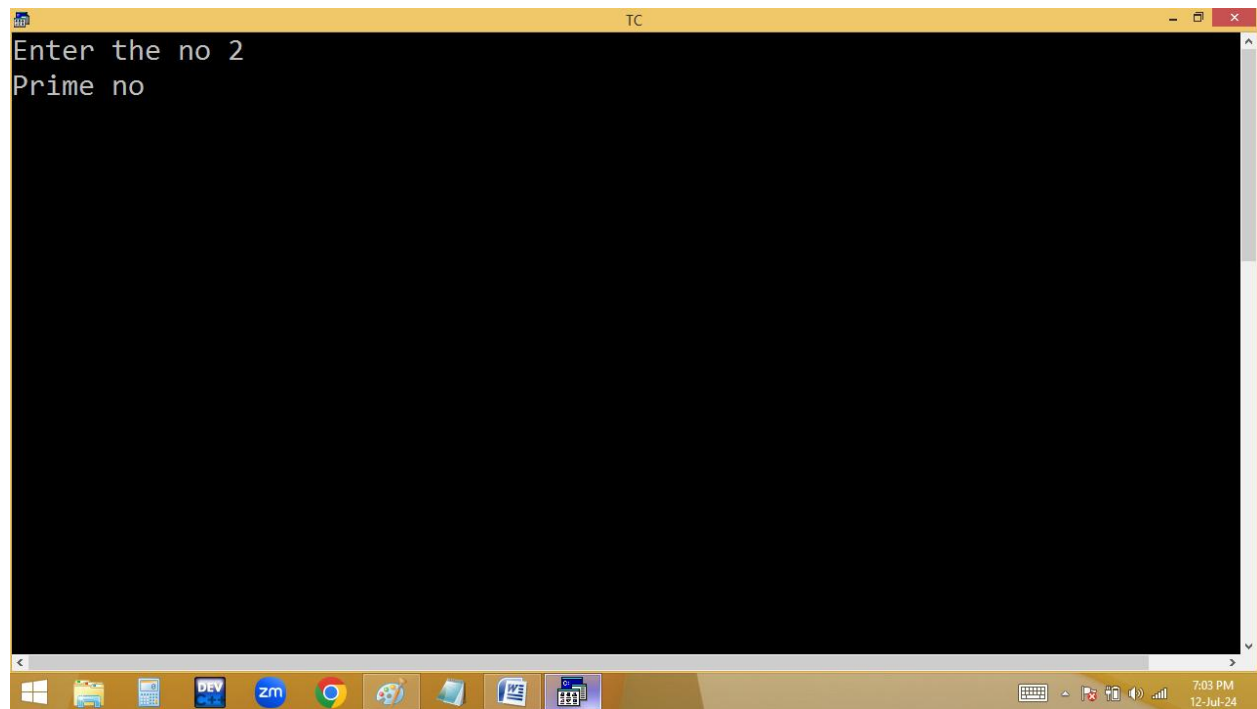


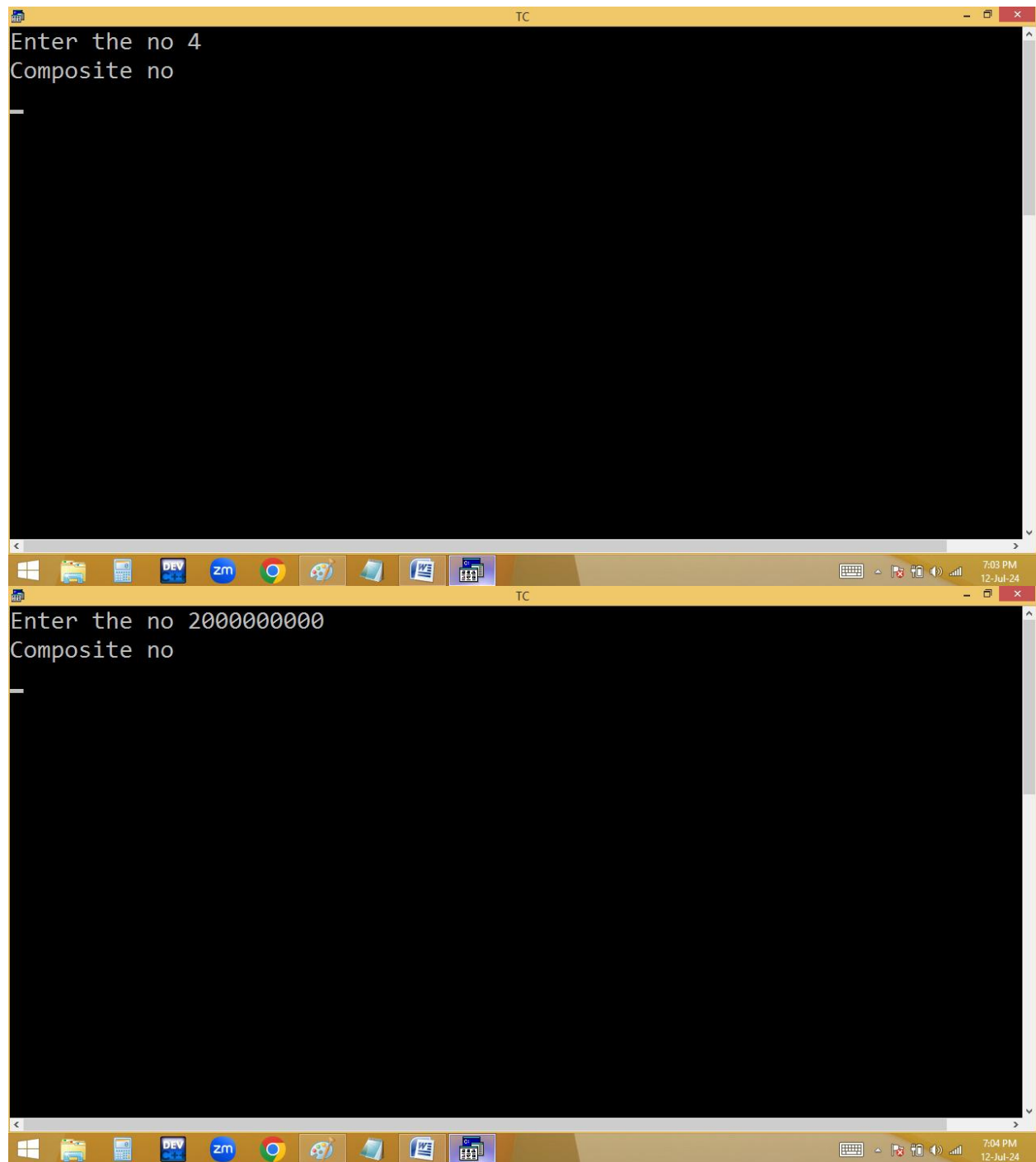
```
TC
Enter the no 3
Prime no
```

```
TC
Enter the no 4
composite no
```

```
TC
#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 ");
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 1
Not a prime/composite
```





10 - 1 2 5 10

100 - 1 2 4 5 10 20 25 50 100

5 - 1 5

11 - ~~1~~ and ~~11~~

2 to  $11/2 = 5$

```
for( i=2; i<=6<=5n/2; i++)  
{  
    if(2000000000%2==0){p(com);return;  
    }  
    11%2 = 1  
    11%3 = 2  
    11%4 = 3  
    11%5 = 1  
    6  
    p(prime);
```

### FIBONACCI SERIES:

5 FIBONACCI SERIES IS 0 1 1 2 3



The image shows two screenshots of the Turbo C++ (TC) IDE. The top screenshot displays the source code of a program that calculates the first 'n' terms of the Fibonacci sequence. The code is as follows:

```
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 1 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int n,i,f1=0, f2=1, f3;
clrscr();
printf("Enter the no "); scanf("%d",&n);
for(i=1;i<=n;i++)
{
printf("%4d",f1); f3=f1+f2; f1=f2; f2=f3;
}
getch();
}
```

The bottom screenshot shows the program's execution. It prompts the user to "Enter the no 5". The output displays the first five terms of the Fibonacci sequence: 0, 1, 1, 2, 3, followed by a cursor. The status bar at the bottom of both windows indicates the time as 7:14 PM on 12-Jul-24.

```

TC
Enter the no 10
0 1 1 2 3 5 8 13 21 34

```

```

for( i=1; i <= 5; i++ )
{
  p(f1); 0 1 1 2 3
  f3=f1+f2;
  f1=f2;
  f2=f3;
}

```

$$\frac{n}{5}$$

$$\frac{i}{1, 2, 3, 4, 5, 6}$$

f1	+	f2	=	f3
0	+	1	=	1
1	+	1	=	2
1	+	2	=	3
2	+	3	=	5
3		5		

## ARMSTRONG NO:

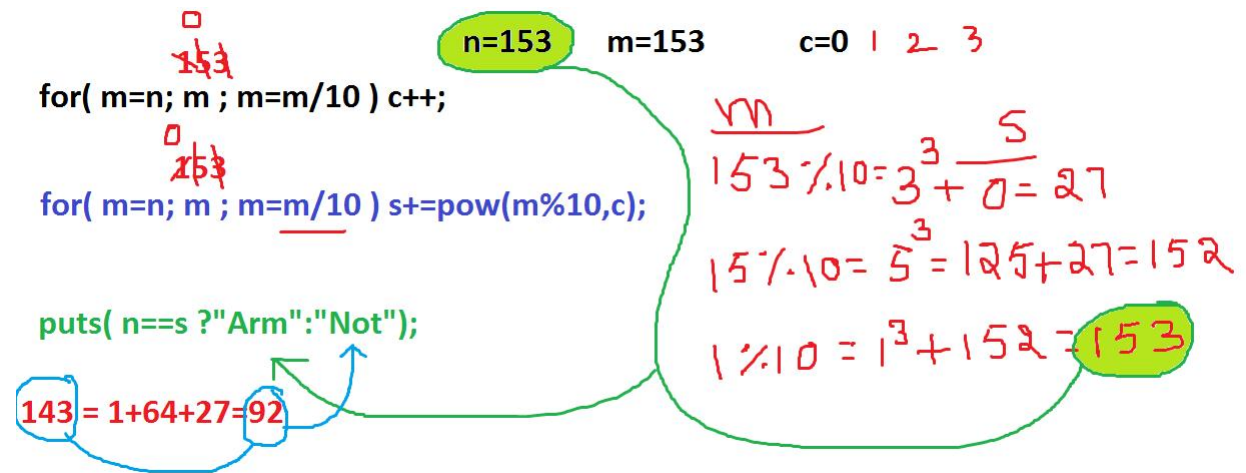
1 is a single digit no  $\rightarrow 1^1 = 1$

9 is a single digit no  $\rightarrow 9^1 = 9$

153 is a 3 digit no  $\rightarrow 1^3 + 5^3 + 3^3 = 1 + 125 + 27 = 153$

370, 371, 407, 1634, 8208, .....

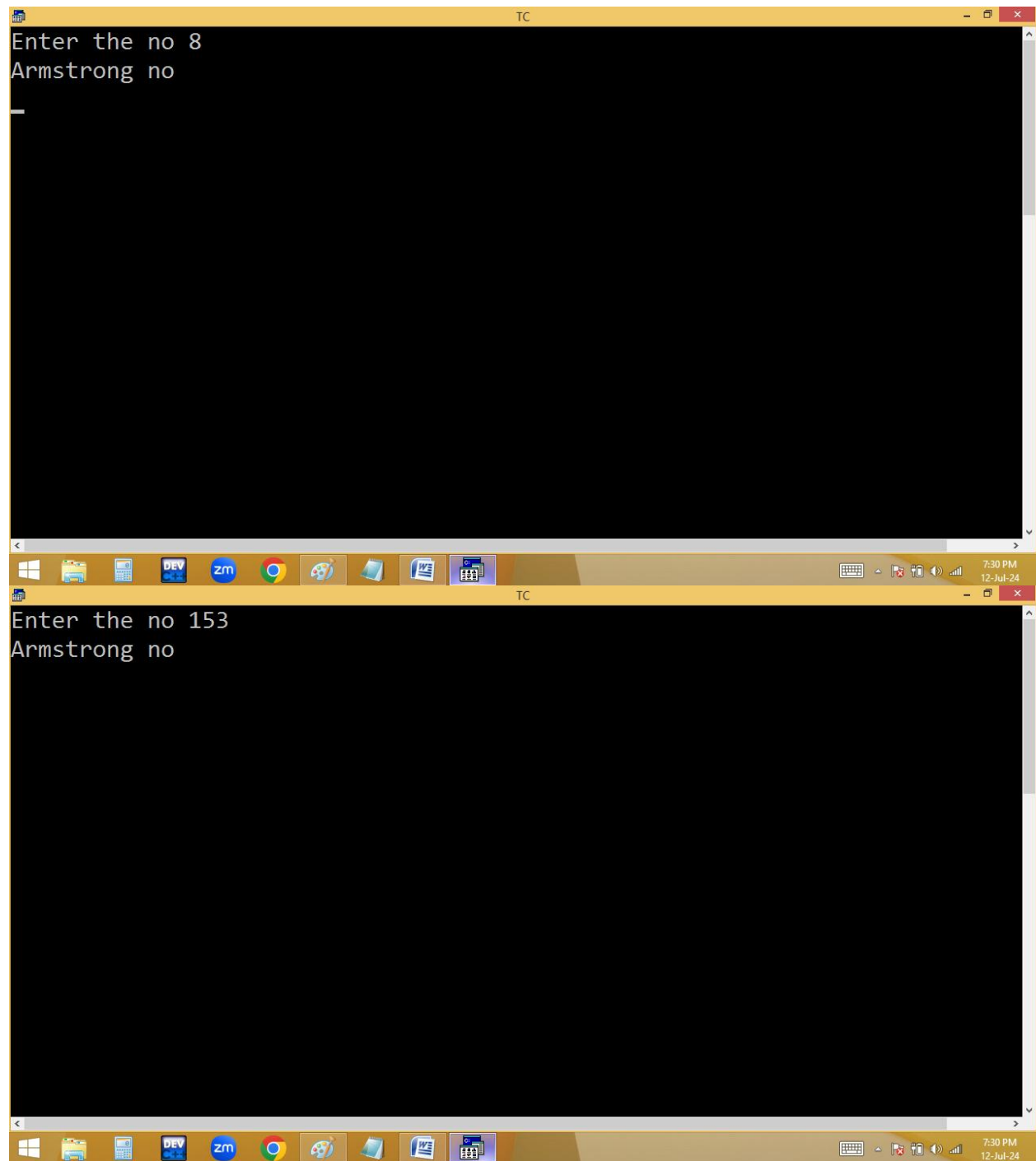
1634 is a 4 digit no  $\rightarrow 1^4 + 6^4 + 3^4 + 4^4 = 1634$

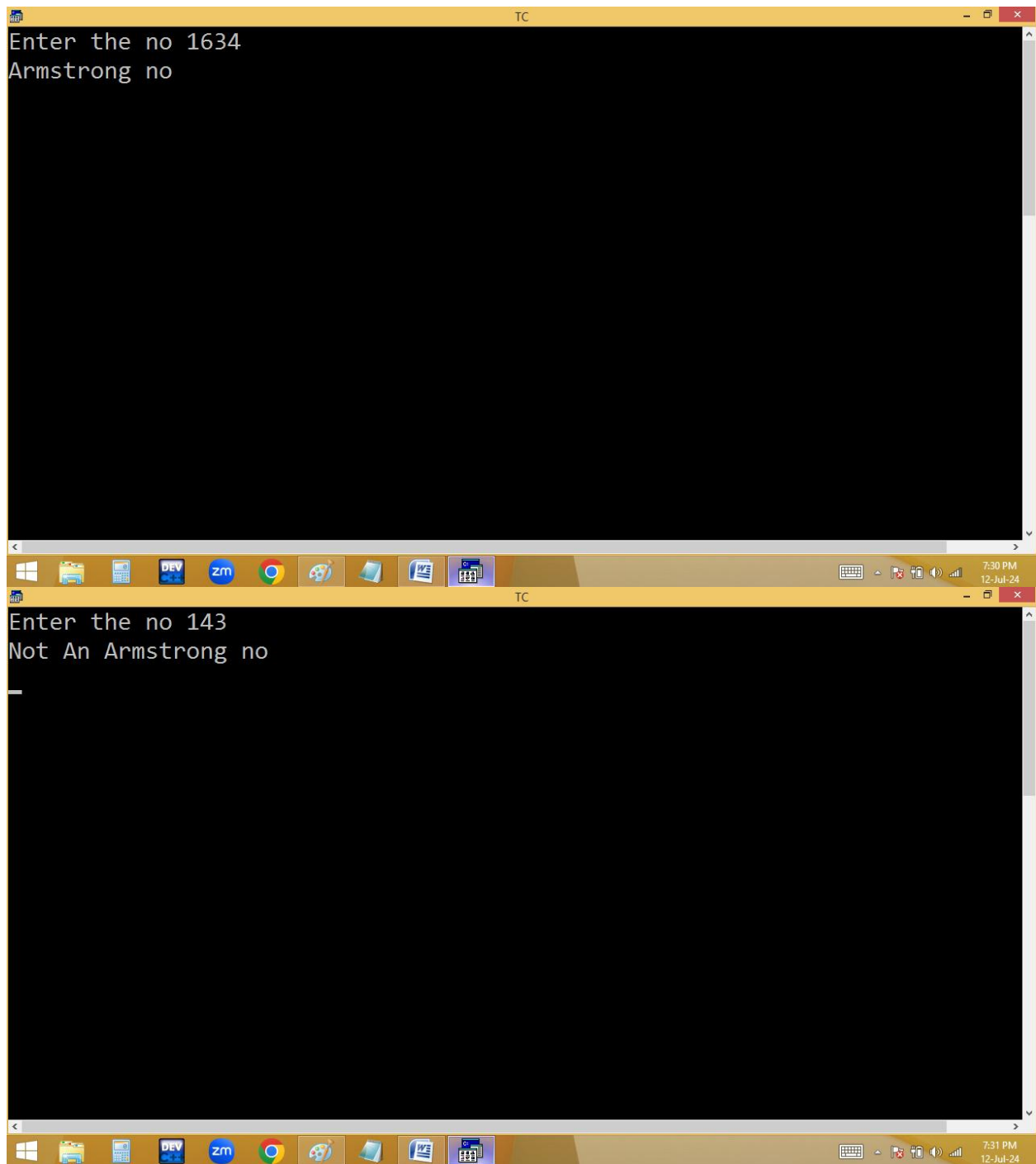


The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a program to check if a number is an Armstrong number. The code is as follows:

```
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 14 Insert Indent Tab Fill Unindent * E:6PM.C
#include<stdio.h>
#include<conio.h>
#include<math.h>
void main()
{
int n,m,c=0,s=0;
clrscr();
printf("Enter the no "); scanf("%d",&n);
for(m=n;m;m/=10)c++; /* counting no of digits */
for(m=n;m;m/=10)s=s+pow(m%10,c);
puts(n==s?"Armstrong no":"Not An Armstrong no");
getch();
}
```

The bottom window shows the program's execution. It prompts the user to "Enter the no 1" and then displays the output "Armstrong no". The Windows taskbar at the bottom indicates the time is 7:30 PM on 12-Jul-24.





13 prime

13 reverse 31 also prime ← twisted prime