

printf():

It is the major output function in C.

Printf always refers to **standard output device** i.e. monitor.

It belongs to standard input output header file i.e. `<stdio.h>`

In printf, **f means formatted**.

Syntax:

```
int printf(" [ text ] [ conversion characters / format  
specifiers ] " [ , variables ] [ , expressions ] );
```

Note:

1. Printf always returns an int that indicates the no. of characters in " ".
2. In printf the first argument should be in " ".
3. Printf can perform both formatted and unformatted outputs.

Eg.

`printf("Hi");` ➔ unformatted

`printf("%d",10);` → formatted

4. In `printf` everything printed as it is except back slash characters and conversion characters.

Eg: `printf("Hi\nHello-%d",10);`

Output:

Hi

Hello-10

5. In `printf` execution order is right to left and printing is left to right.

Eg:

`int a=10;`

`Printf("%d, %d", a=100, ++a, a=1);`

100, 2

Eg.

`printf("Hi");` → Hi

`int a=10;`

`float b=1.2;`

`printf("a=");` → a=

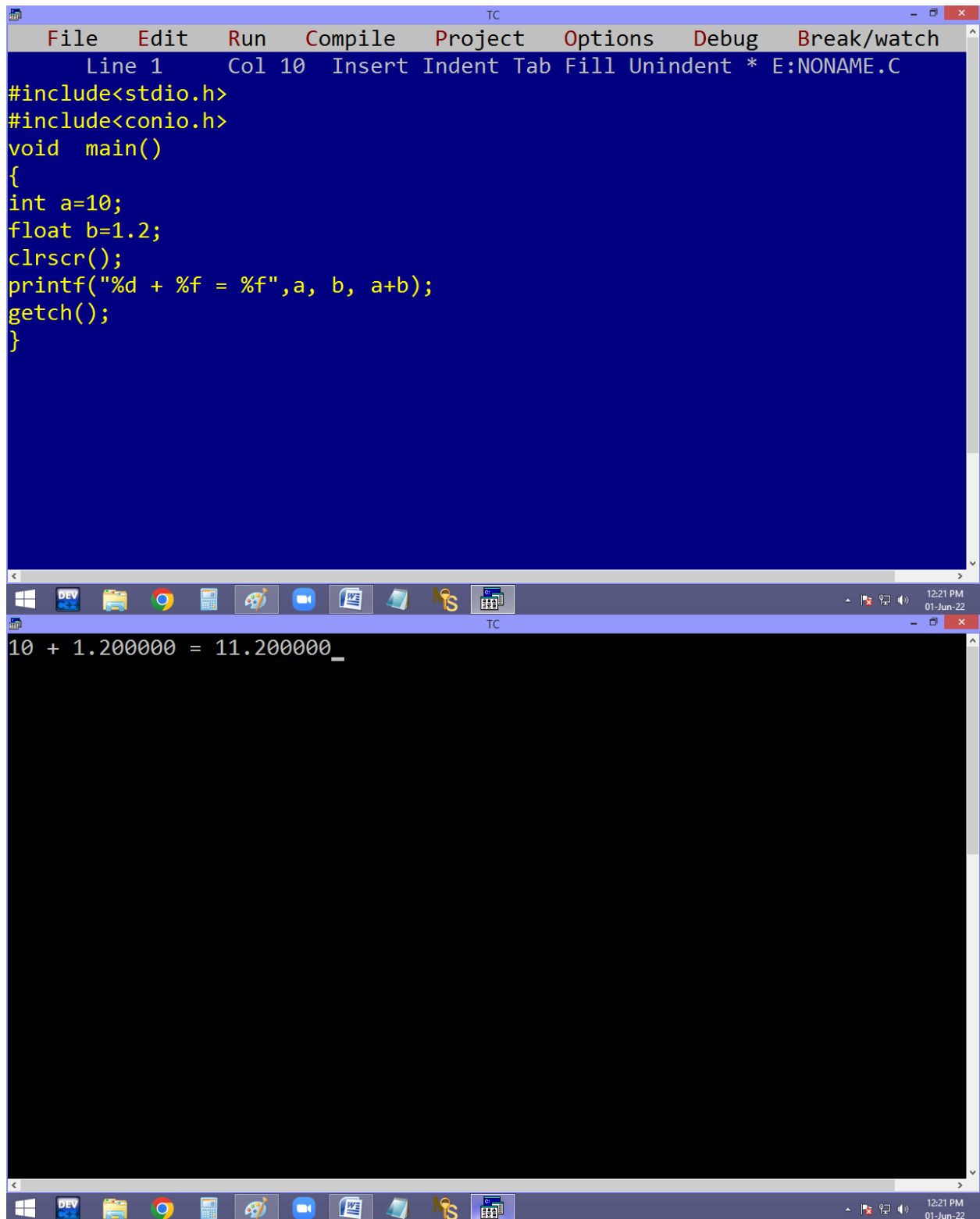
`printf("a=%d",a);` → a=10

printf("a=%d, b=%f",a,b); ➔ a=10, b=1.200000

printf("Sum=%f",a + b); ➔ sum = 11.200000

printf("a=%d, b=%f,sum=%f",a,b,a+b);

printf("%d",a); ➔ 10



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays a C program with the following code:

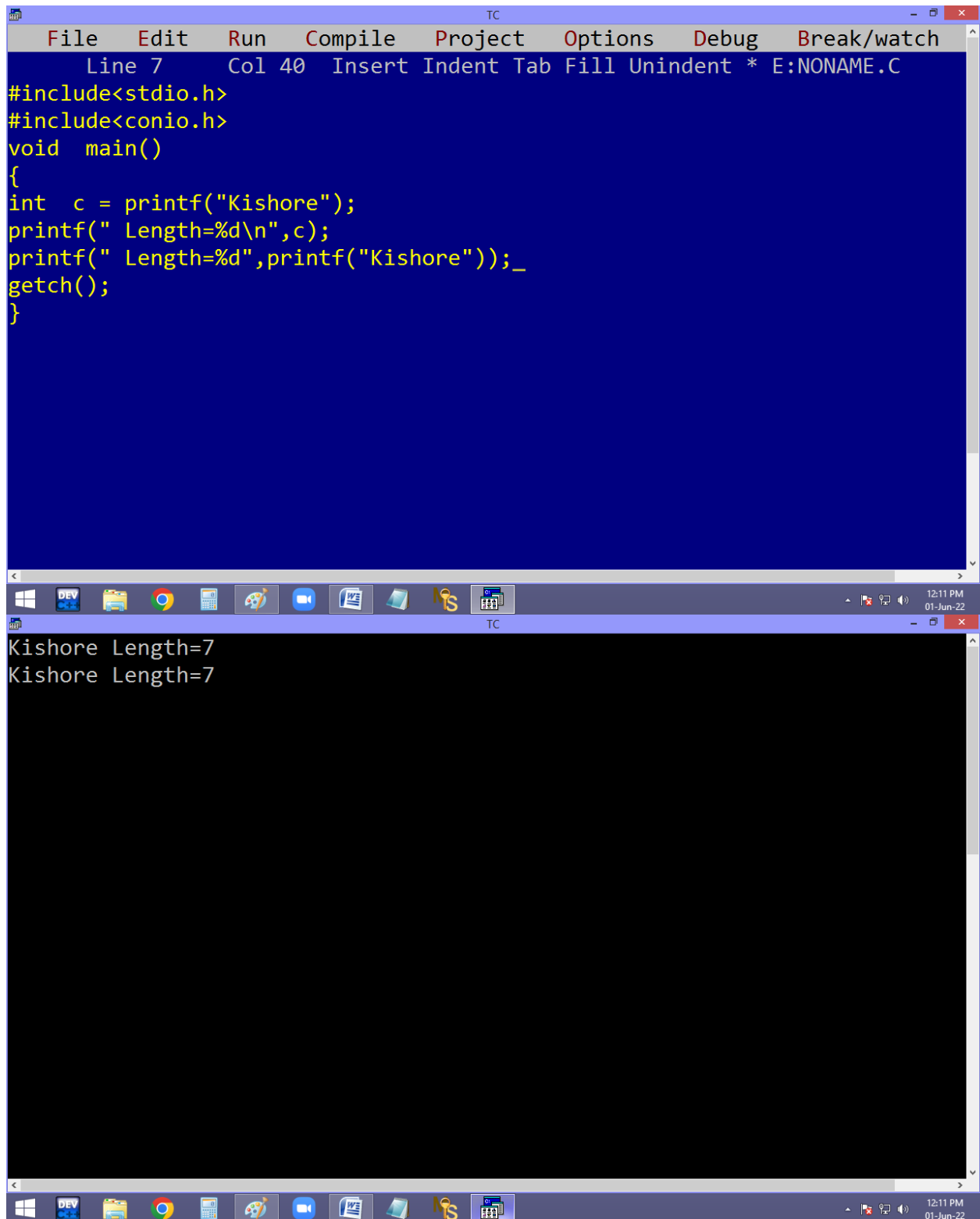
```
File Edit Run Compile Project Options Debug Break/watch
Line 1 Col 10 Insert Indent Tab Fill Unindent * E:NONAME.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=10;
float b=1.2;
clrscr();
printf("%d + %f = %f",a, b, a+b);
getch();
}
```

The bottom window shows the output of the program:

```
10 + 1.200000 = 11.200000_
```

The Windows taskbar at the bottom includes icons for Windows, DEV C++, File Explorer, Google Chrome, Calculator, Paint, VLC, Word, and a folder icon. The system clock shows 12:21 PM on 01-Jun-22.

eg. write a program to find the string length without using loop / strlen().



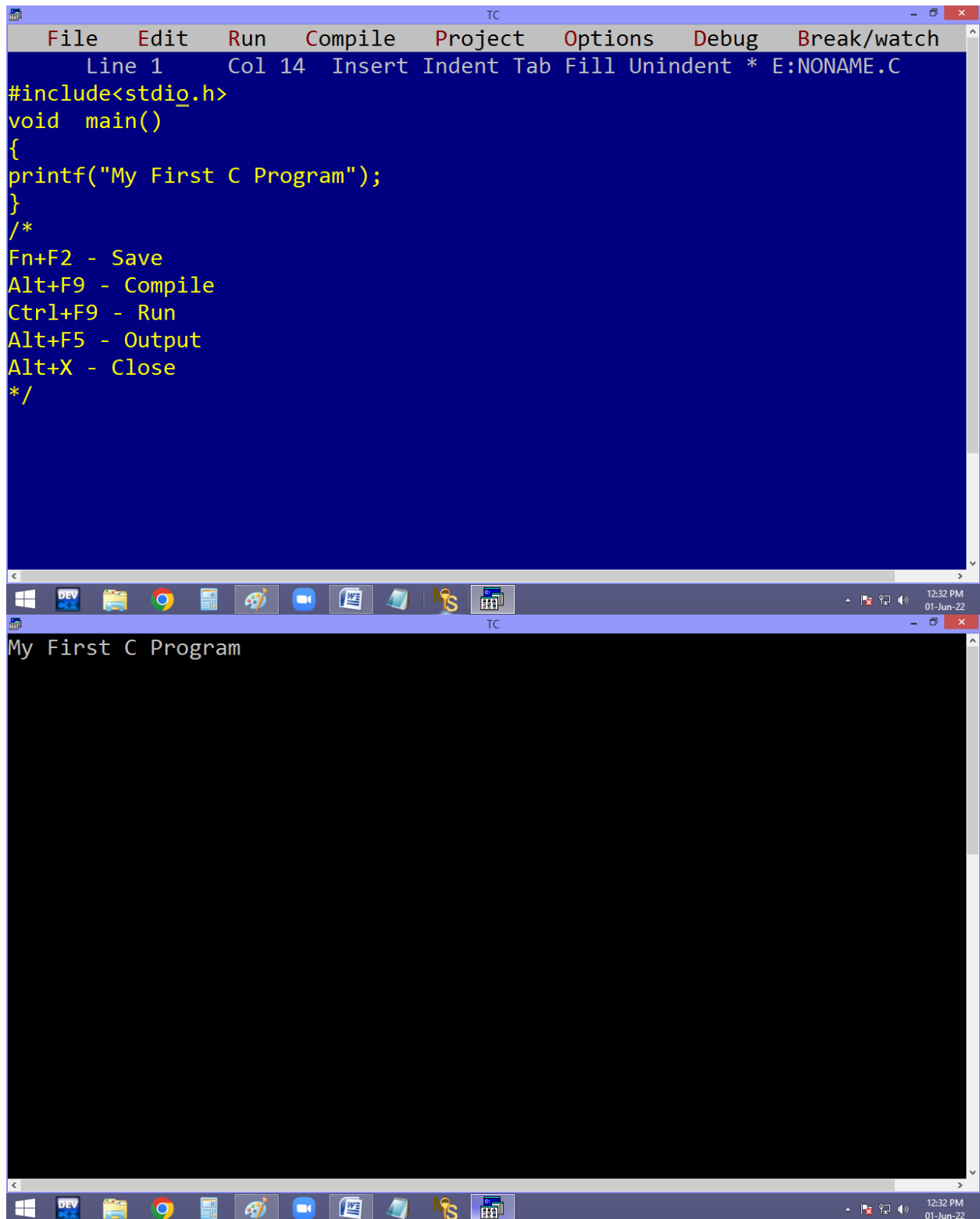
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays a C program with the following code:

```
File Edit Run Compile Project Options Debug Break/watch
Line 7 Col 40 Insert Indent Tab Fill Unindent * E:NONAME.C
#include<stdio.h>
#include<conio.h>
void main()
{
int c = printf("Kishore");
printf(" Length=%d\n",c);
printf(" Length=%d",printf("Kishore"));_
getch();
}
```

The bottom window shows the output of the program:

```
Kishore Length=7
Kishore Length=7
```

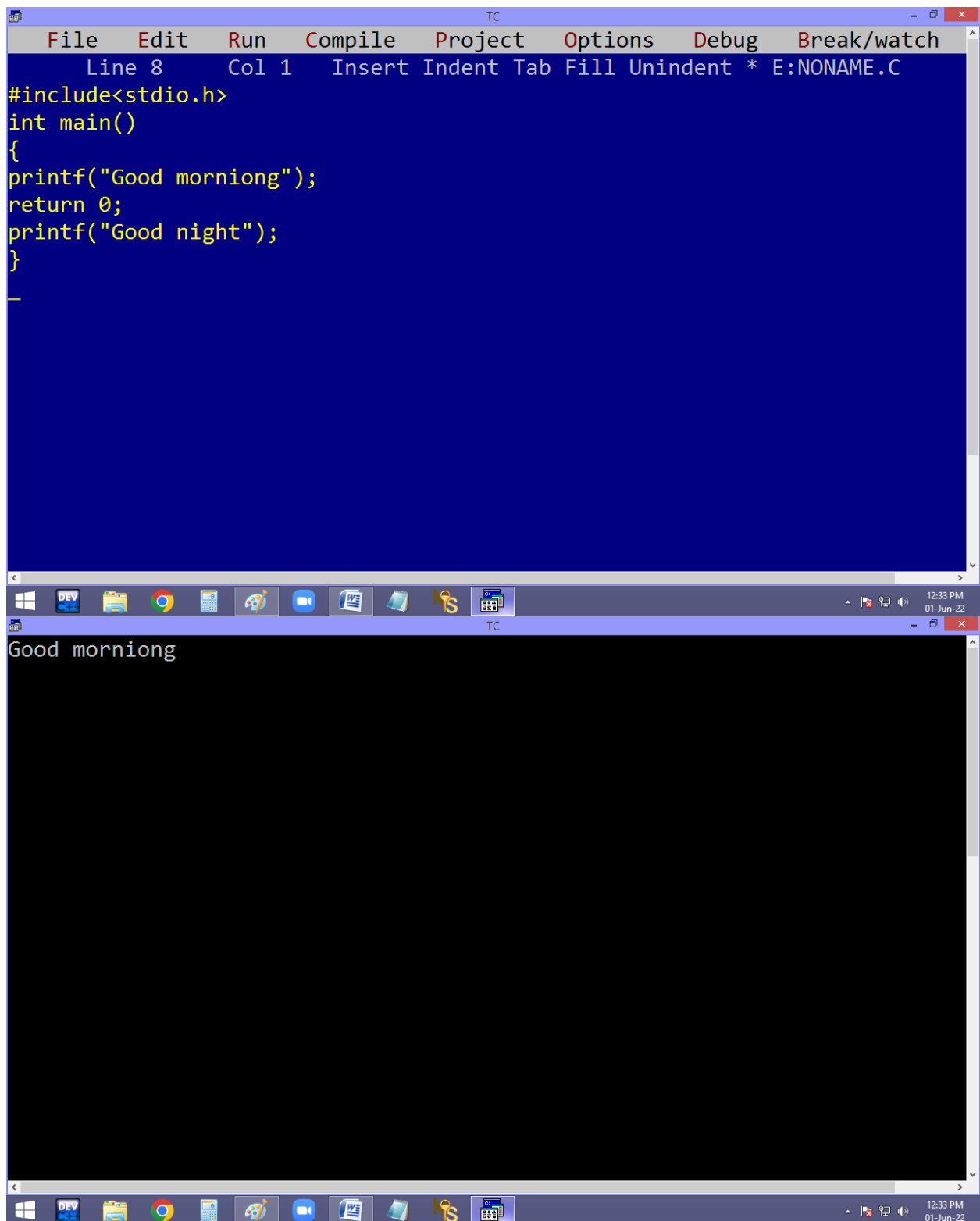
The Windows taskbar at the bottom includes icons for Windows, DEV C++, File Explorer, Google Chrome, Calculator, Paint, VLC, Notepad, and the TC application. The system clock shows 12:11 PM on 01-Jun-22.



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window, titled 'TC', displays a C program in a blue editor. The program includes `<stdio.h>`, defines `main()`, and prints "My First C Program". It also contains a multi-line comment with keyboard shortcuts: `Fn+F2 - Save`, `Alt+F9 - Compile`, `Ctrl+F9 - Run`, `Alt+F5 - Output`, and `Alt+X - Close`. The bottom window, also titled 'TC', shows the output of the program as "My First C Program" on a black background. The Windows taskbar at the bottom shows the time as 12:32 PM on 01-Jun-22.

```
File Edit Run Compile Project Options Debug Break/watch
Line 1 Col 14 Insert Indent Tab Fill Unindent * E:NONAME.C
#include<stdio.h>
void main()
{
printf("My First C Program");
}
/*
Fn+F2 - Save
Alt+F9 - Compile
Ctrl+F9 - Run
Alt+F5 - Output
Alt+X - Close
*/
```

My First C Program



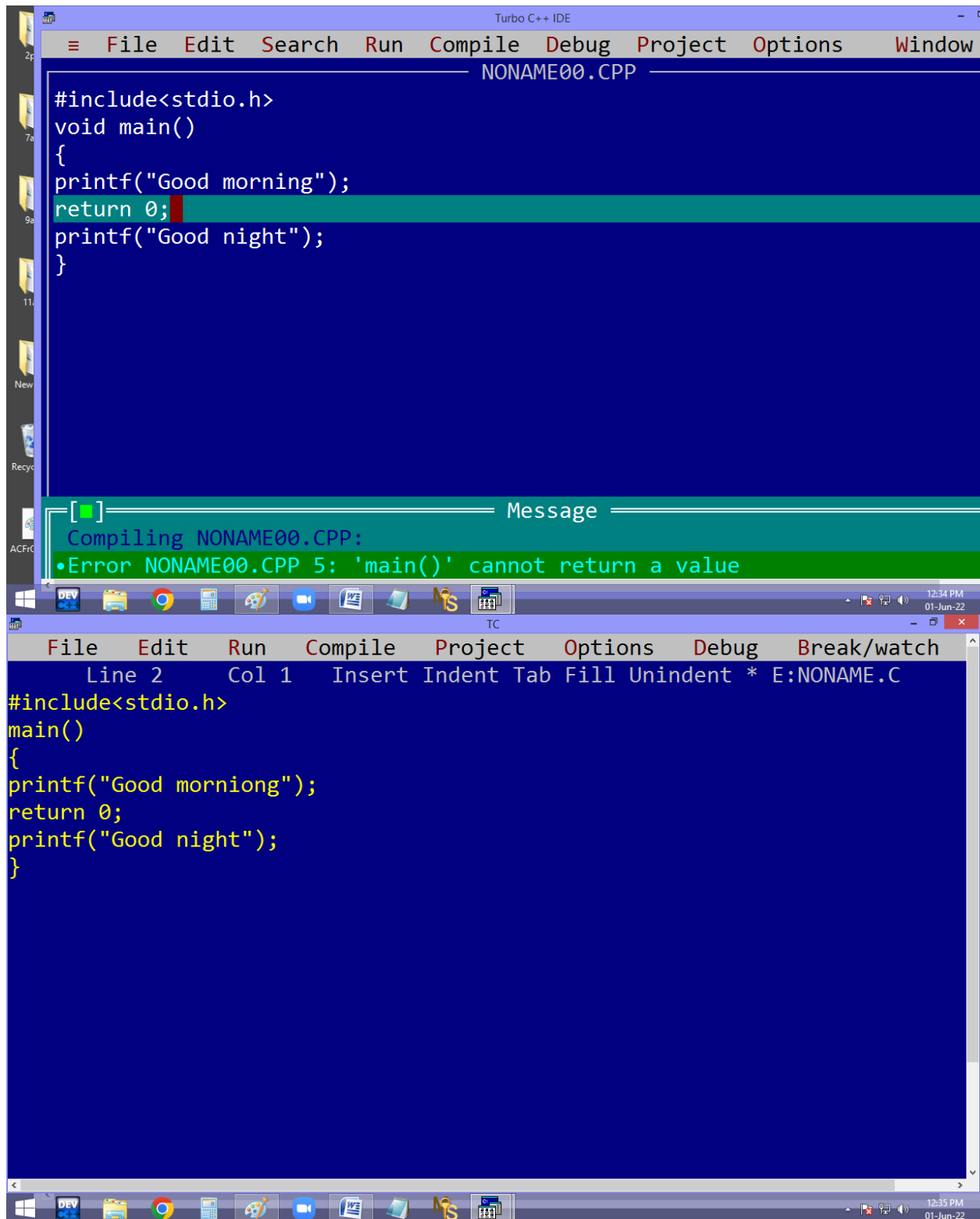
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the code editor, which has a blue background and displays the following C code:

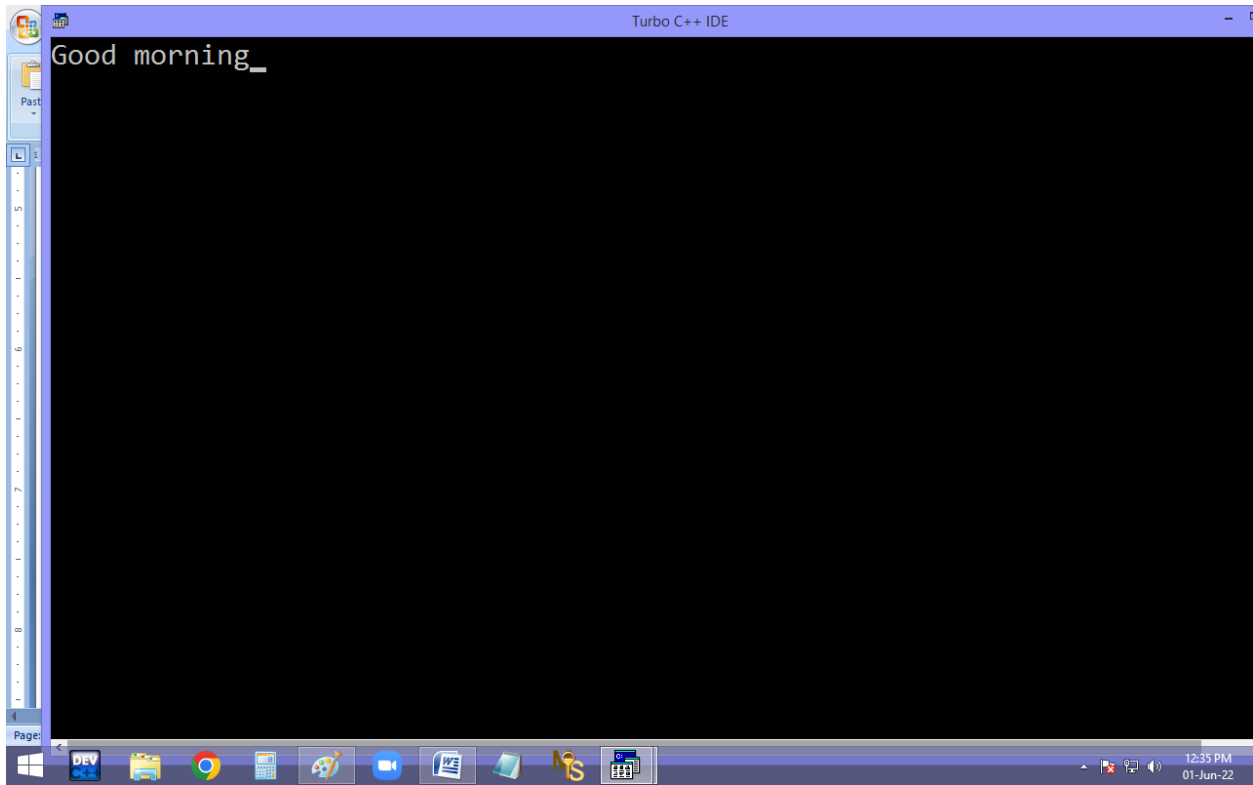
```
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 1 Insert Indent Tab Fill Unindent * E:NONAME.C
#include<stdio.h>
int main()
{
printf("Good morniong");
return 0;
printf("Good night");
}
—
```

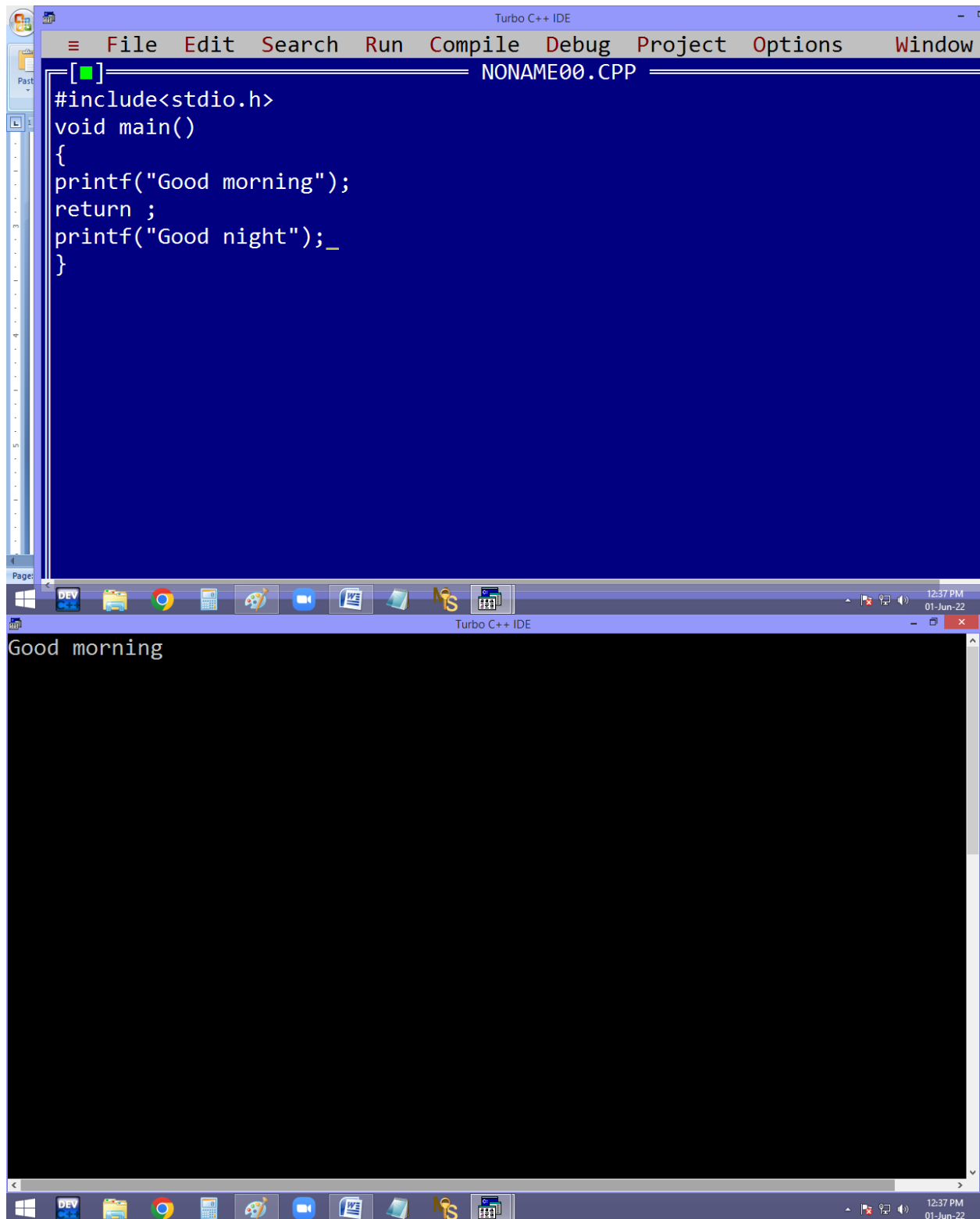
The bottom window is the output console, which has a black background and displays the output of the program:

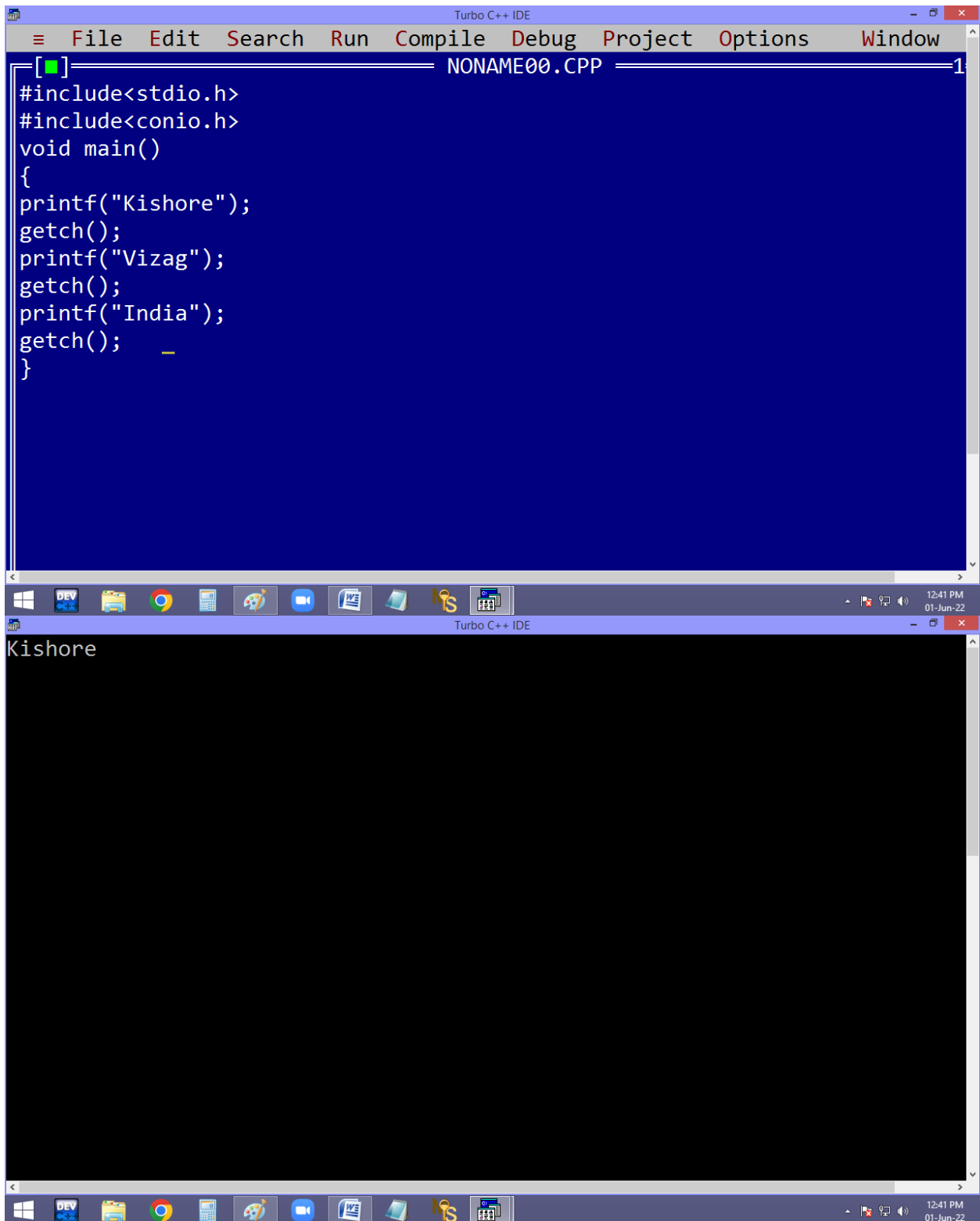
```
Good morniong
```

The Windows taskbar is visible at the bottom of the screen, showing various application icons and the system clock indicating 12:33 PM on 01-Jun-22.





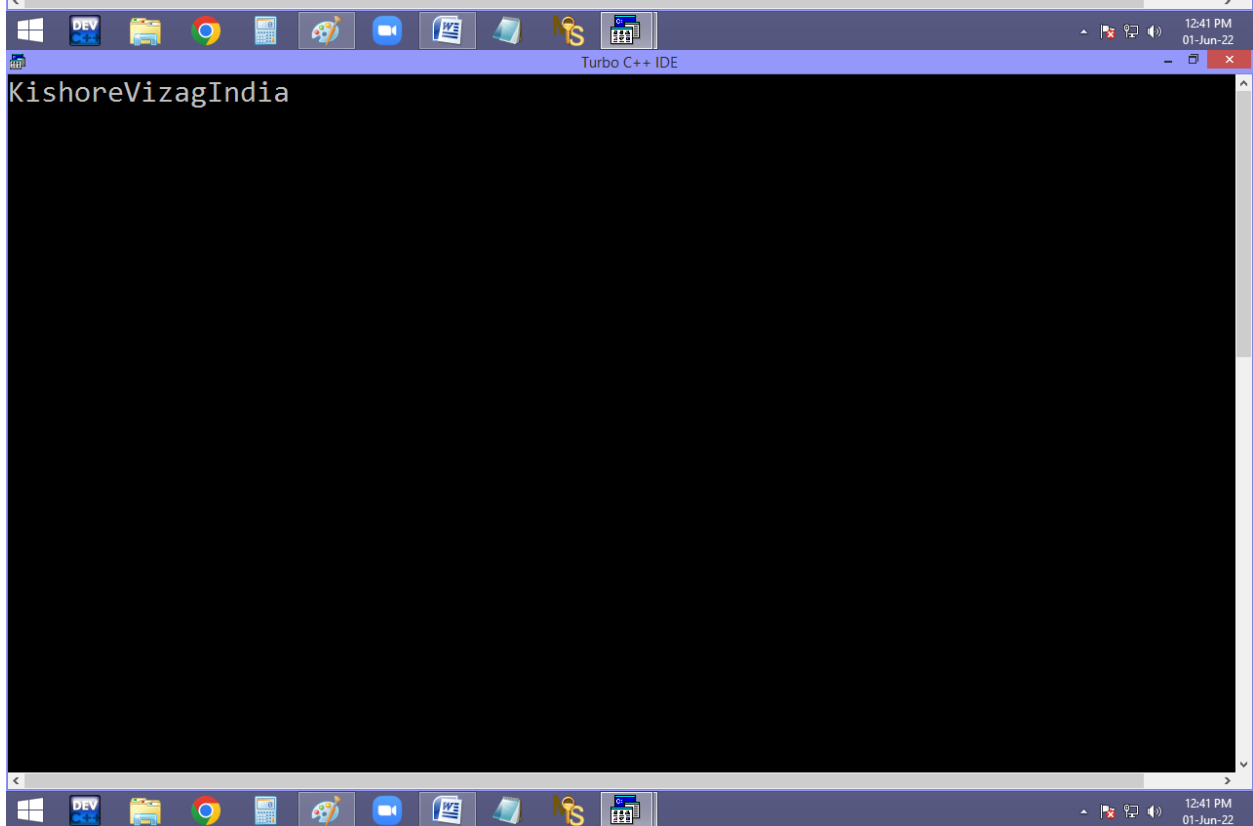
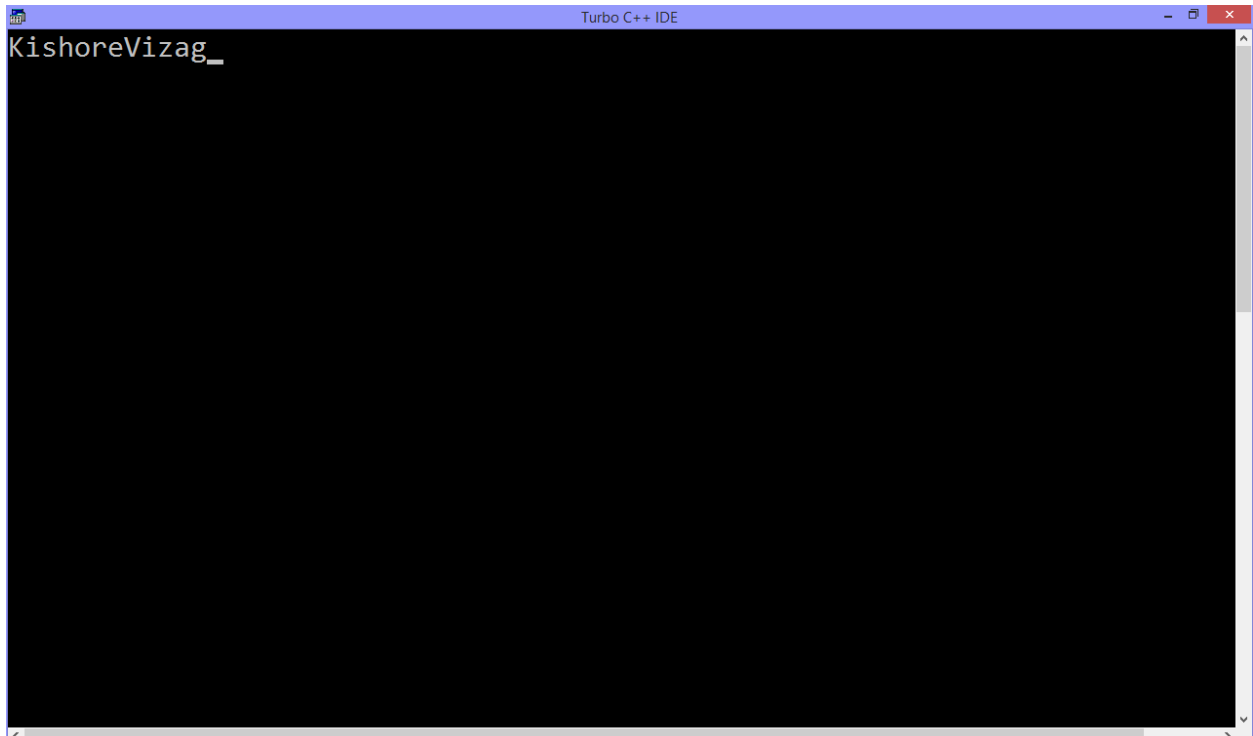


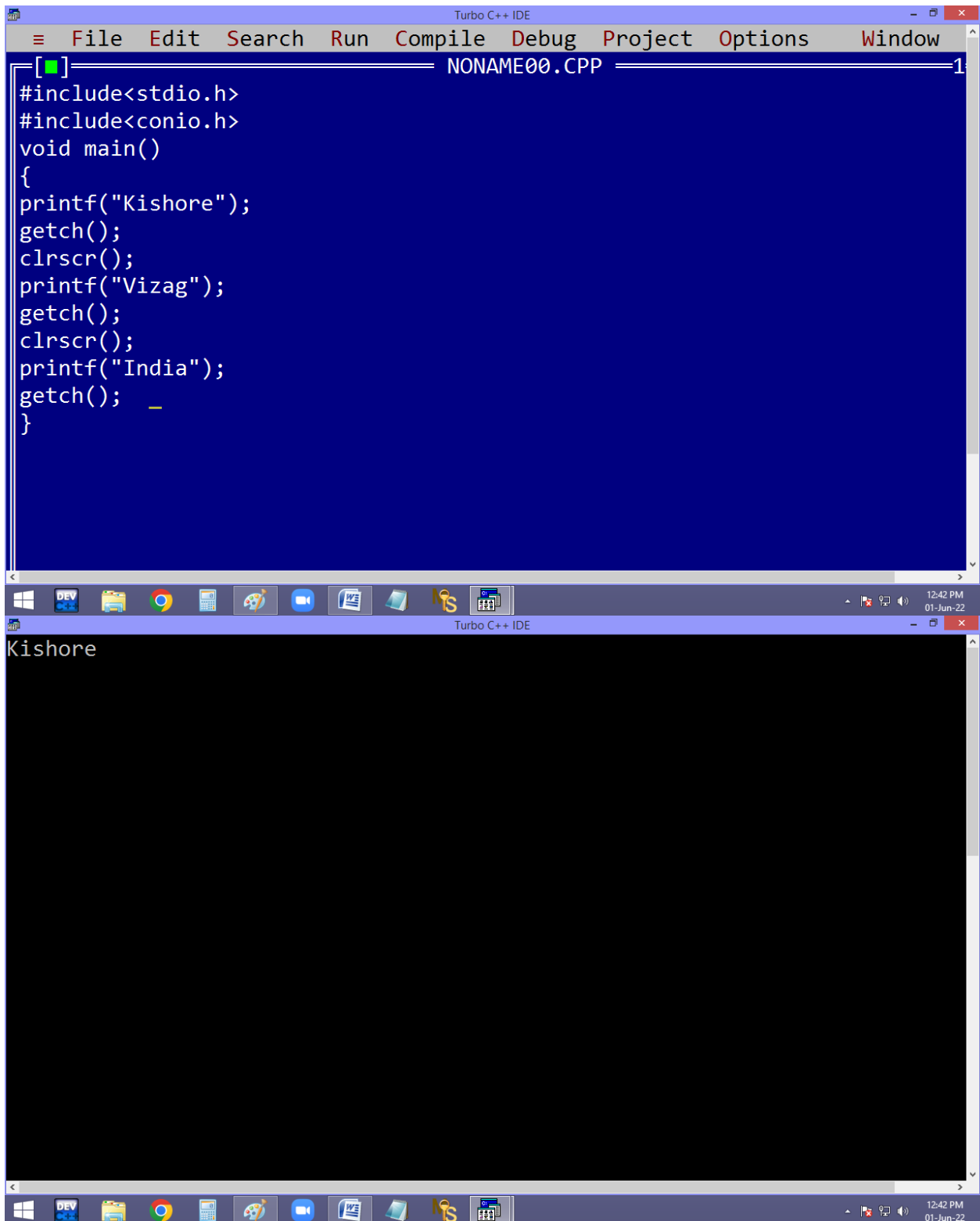


The image shows a screenshot of the Turbo C++ IDE. The top window, titled "NONAME00.CPP", contains the following C code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
printf("Kishore");
getch();
printf("Vizag");
getch();
printf("India");
getch();
}
```

The bottom window shows the output of the program, which is "Kishore". The Windows taskbar at the bottom indicates the time is 12:41 PM on 01-Jun-22.

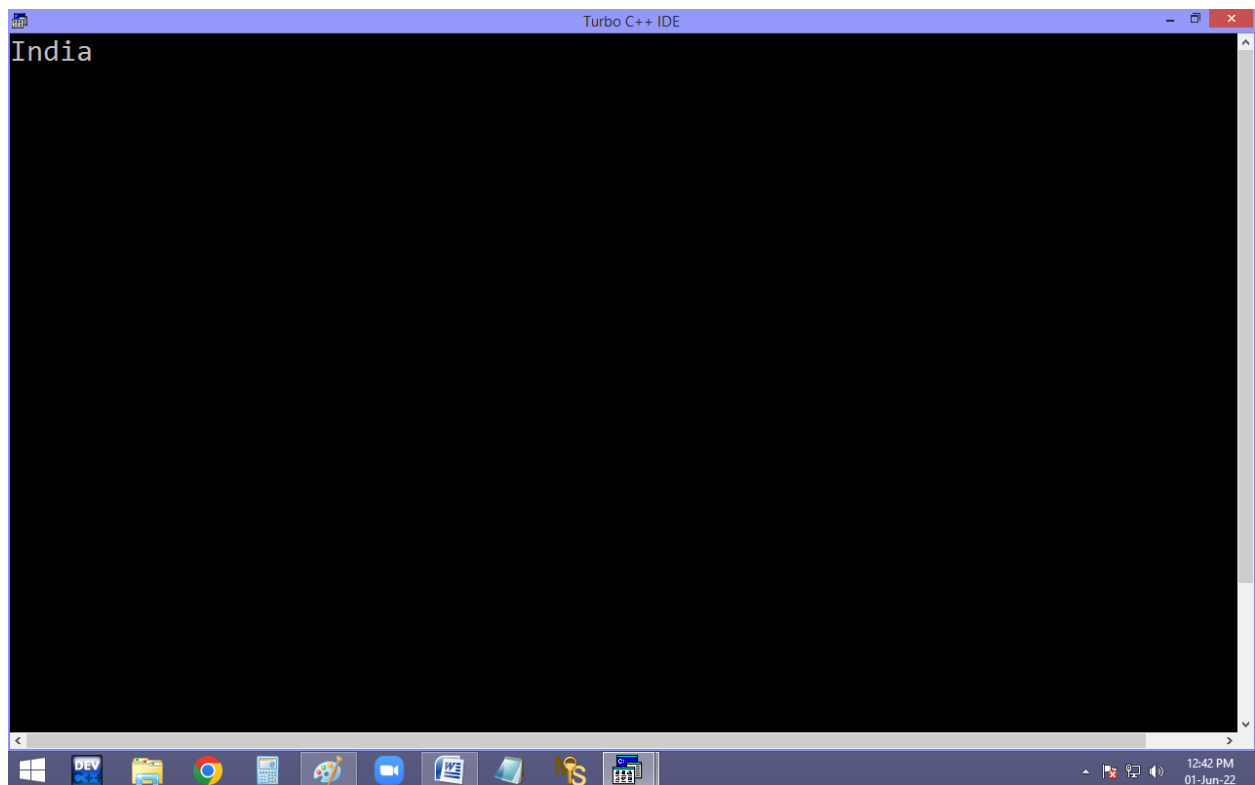
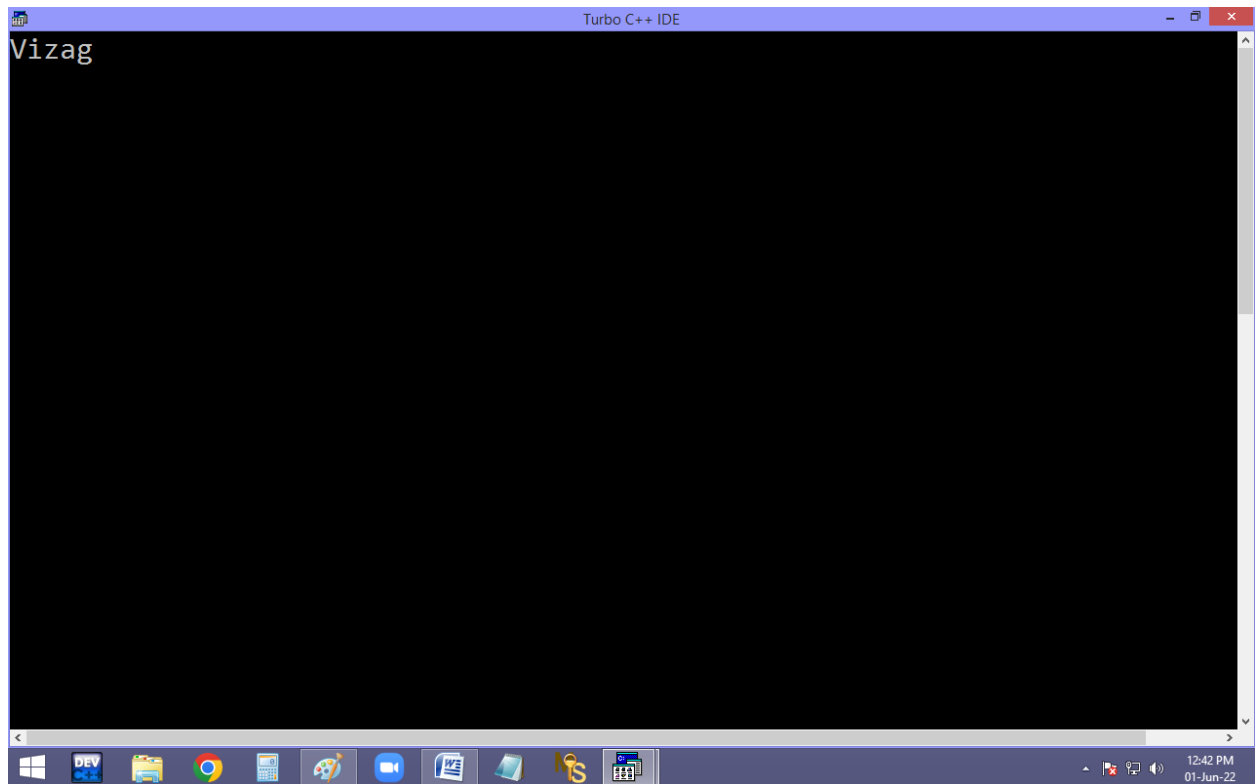




The image shows a screenshot of the Turbo C++ IDE. The top window, titled "NONAME00.CPP", contains the following C code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
printf("Kishore");
getch();
clrscr();
printf("Vizag");
getch();
clrscr();
printf("India");
getch();
}
```

The bottom window shows the output of the program, which is "Kishore". The Windows taskbar at the bottom indicates the system time is 12:42 PM on 01-Jun-22.



In Dev C++ and other compilers:

