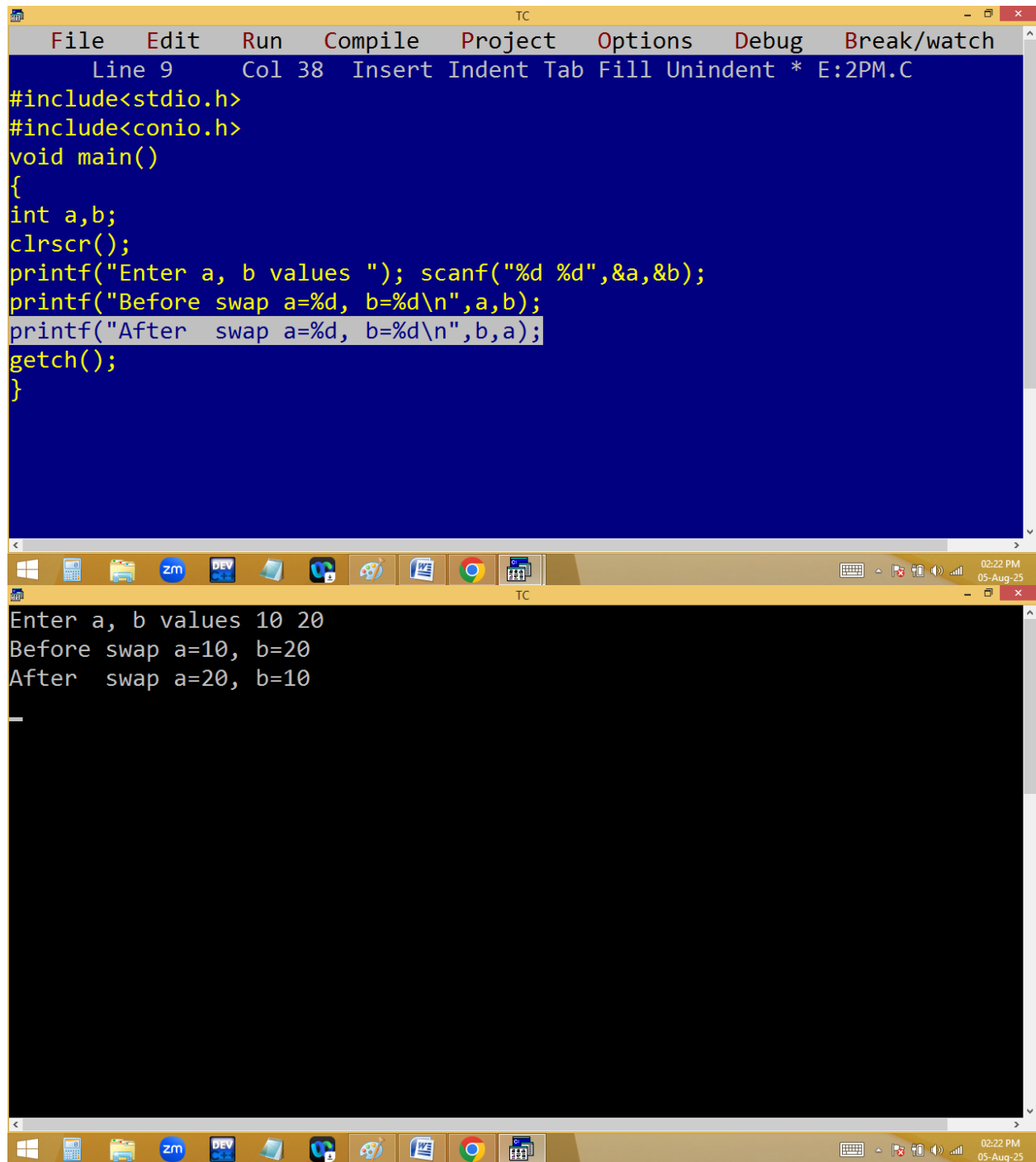


Read two integer values and swap [interchange]:

Without using operators?



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 38 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b;
clrscr();
printf("Enter a, b values "); scanf("%d %d",&a,&b);
printf("Before swap a=%d, b=%d\n",a,b);
printf("After swap a=%d, b=%d\n",b,a);
getch();
}
```

Enter a, b values 10 20
Before swap a=10, b=20
After swap a=20, b=10

Using 3rd variable:

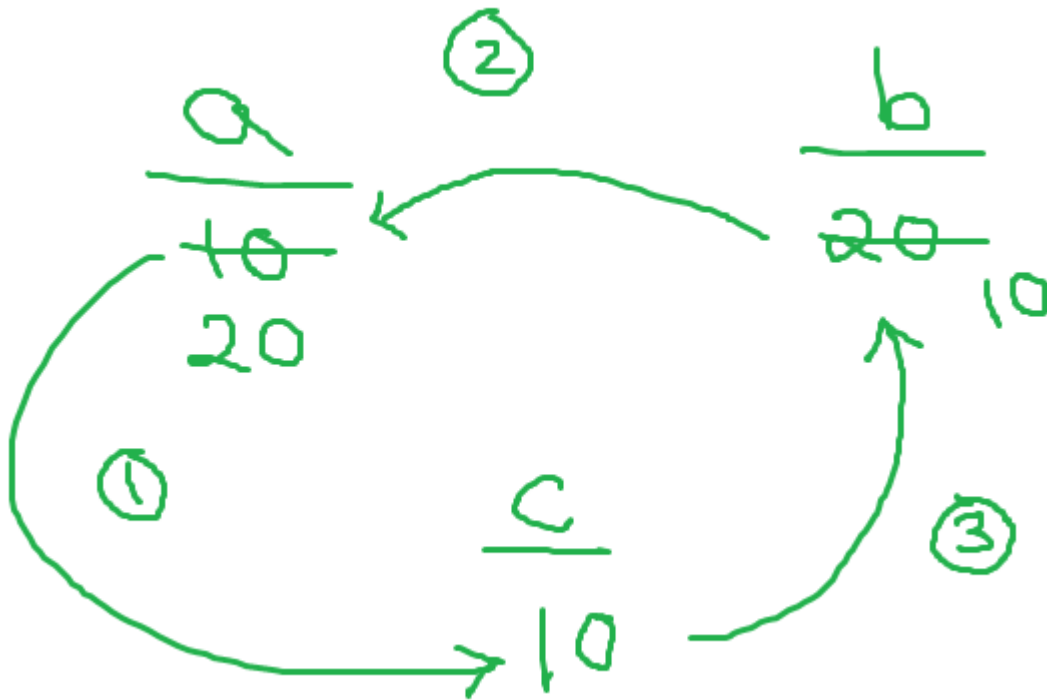
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a program that swaps two numbers. The code is as follows:

```
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 38 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c;
clrscr();
printf("Enter a, b values "); scanf("%d %d",&a,&b);
printf("Before swap a=%d, b=%d\n",a,b);
c=a; a=b; b=c;
printf("After swap a=%d, b=%d\n",a,b);
getch();
}
```

The bottom window shows the output of the program after execution:

```
Enter a, b values 10 20
Before swap a=10, b=20
After swap a=20, b=10
```

The Windows taskbar at the bottom indicates the time is 02:23 PM on 05-Aug-23. Various application icons are visible on the taskbar, including a web browser, file explorer, and development tools.



Without using 3rd variable?

The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays the source code for a program that swaps two numbers using arithmetic operations. The code is as follows:

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 21 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b;
clrscr();
printf("Enter a, b values "); scanf("%d %d",&a,&b);
printf("Before swap a=%d, b=%d\n",a,b);
/*a=a+b; b=a-b; a=a-b;
a=a*b; b=a/b; a=a/b; */
a=a^b; b=a^b; a=a^b;
printf("After swap a=%d, b=%d\n",a,b);
getch();
}
```

The bottom window shows the output of the program after execution. The user entered the values 10 and 20. The output is:

```
Enter a, b values 10 20
Before swap a=10, b=20
After swap a=20, b=10
```

The Windows taskbar at the bottom indicates the time is 02:26 PM on 05-Aug-23.

$a=10 \implies 30 \implies 20$
 $b=20 \implies 10$

$a=a+b \implies 10+20=30$
 $b=a-b \implies 30-20=10$
 $a=a-b \implies 30-10=20$

$$\begin{array}{r} 2 \overline{) 10} \\ 2 \overline{) 5-0} \\ 2 \overline{) 2-1} \\ 1-0 \end{array}$$

1010

$a=10 \implies 200 \implies 20$
 $b=20 \implies 10$

$a=a*b \implies 10*20=200$
 $b=a/b \implies 200/20=10$
 $a=a/b \implies 200/10=20$

$$\begin{array}{r} 2 \overline{) 20} \\ 2 \overline{) 10-0} \\ 2 \overline{) 5-0} \\ 2 \overline{) 2-1} \\ 1-0 \end{array}$$

10100

a=10, b=20
a = a ^ b;

a=10=01010

b=20=10100

11110=30
2⁴ 2³ 2² 2¹

16 + 8 + 4 + 2 = 30

a=30, b=20

b=a^b ←

a=30=11110

b=20=10100

01010=10

a=30, b=10

a=a^b ←

a=30=11110

b=10=01010

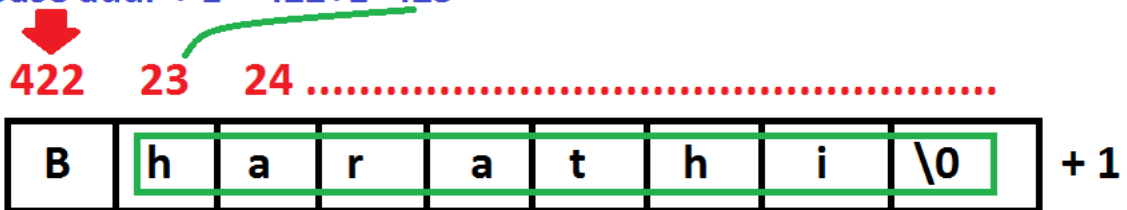
10100=20

a=20, b=10 ✓

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 1 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("Bharathi addr %u\n","Bharathi");
printf("Bharathi\n"+1);
printf(1+"Bharathi"+1);
getch();
}
```

Bharathi addr 422
harathi
arathi

Base addr + 1 = 422+1=423




```
TC
#include<stdio.h>
#include<conio.h>
void main()
{
int a=3; clrscr();
printf("%d\n"+1,999);
printf("%d\n"+1);
printf("%d + %d = %d\n", '1','2','3');
printf("%c + %c = %c\n", 97,98,67);
printf("%d + %d = %d\n", 97,98,99,100);
printf("%i + %i = %i\n", 97,98,99);
printf("%id + %id = %id\n", 1,2,3);
printf("%D + %d = %d\n", 1,2,3);
printf("%d + %D = %d\n", 1,2,3);
printf("%d + %d = %D\n", 1,2,3);
printf("%d + %d = %d\n", 1,2);
getch();
}

d
d
49 + 50 = 51
a + b = C
97 + 98 = 99
97 + 98 = 99
1d + 2d = 3d
%D + %d = %d
1 + %D = %d
1 + 2 = %D
1 + 2 = 3

TC
Activate Windows
Go to PC settings to activate Windows.
02:53 PM
05-Aug-23
```

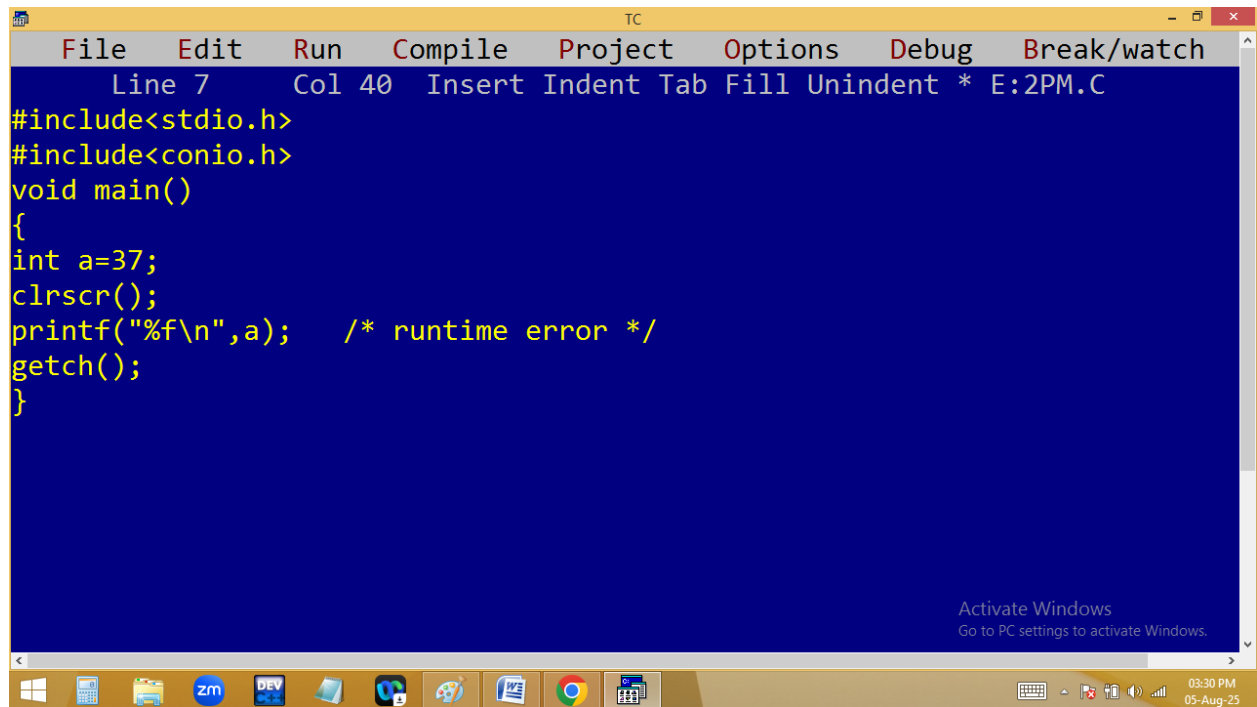
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays a C program with the following code:

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 18 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=37;
clrscr();
printf("%4d\n",a); /* - - 37 */
printf("%-4d\n",a); /* 3 7 - - */
printf("%1d\n",a);
printf("%.5d\n",a);
printf("%*d\n",5,a);
getch();
}
```

The bottom window shows the output of the program:

```
37
37
37
00037
37
```

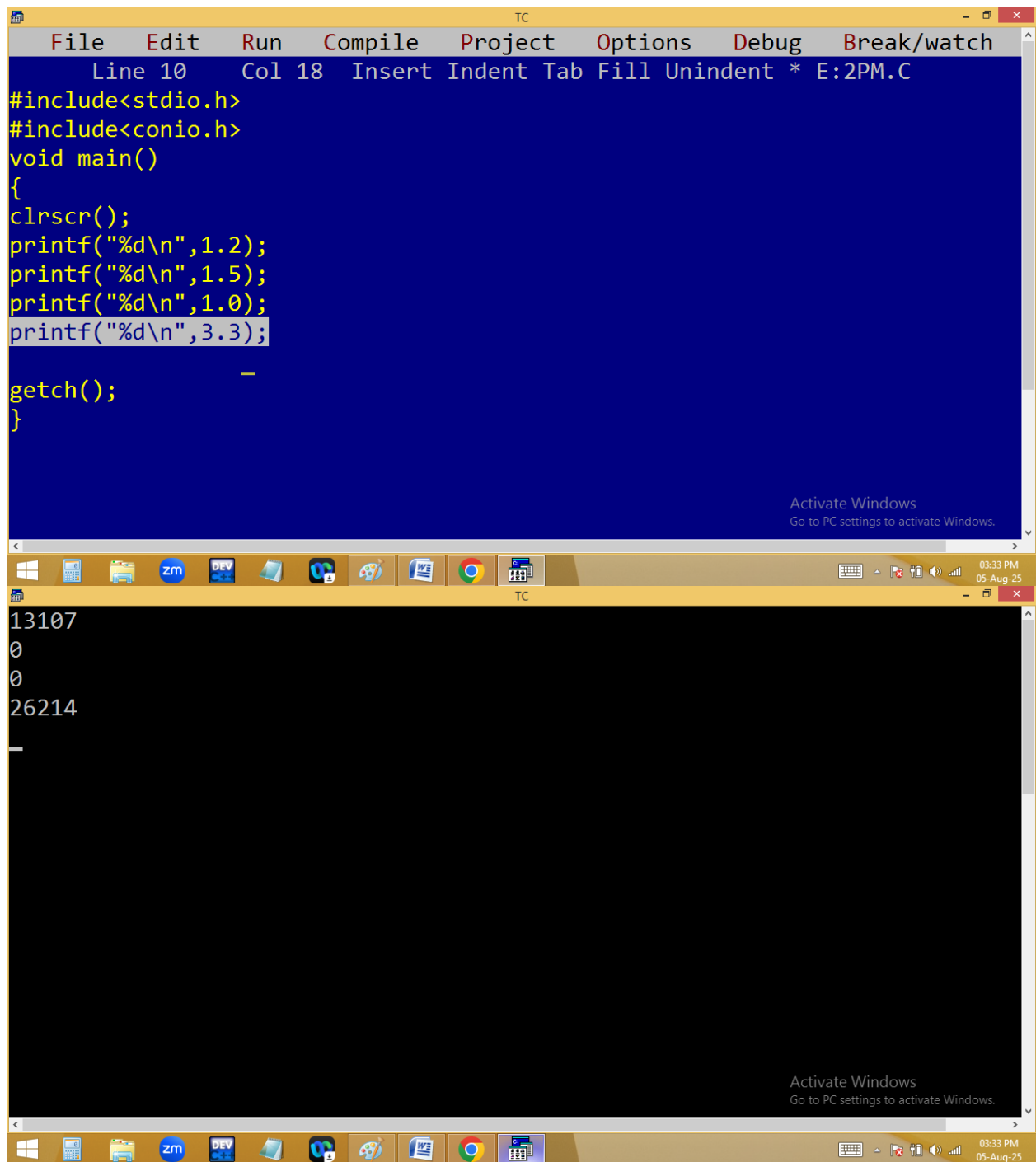
Both windows include a status bar at the bottom with the text "Activate Windows Go to PC settings to activate Windows." and a taskbar at the very bottom showing various application icons and the system clock (03:26 PM 05-Aug-25).



The image shows a screenshot of the Turbo C++ (TC) IDE. The window title is "TC". The menu bar includes File, Edit, Run, Compile, Project, Options, Debug, and Break/watch. The status bar at the top indicates "Line 7", "Col 40", and "Insert Indent Tab Fill Unindent * E:2PM.C". The main editing area has a blue background and contains the following C code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a=37;
clrscr();
printf("%f\n",a);  /* runtime error */
getch();
}
```

At the bottom right of the editing area, there is a message: "Activate Windows Go to PC settings to activate Windows." The Windows taskbar is visible at the bottom, showing icons for the Start menu, Task View, File Explorer, Zoho Mail, DEV C++, and several other applications. The system clock in the bottom right corner shows "03:30 PM" and "05-Aug-25".



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

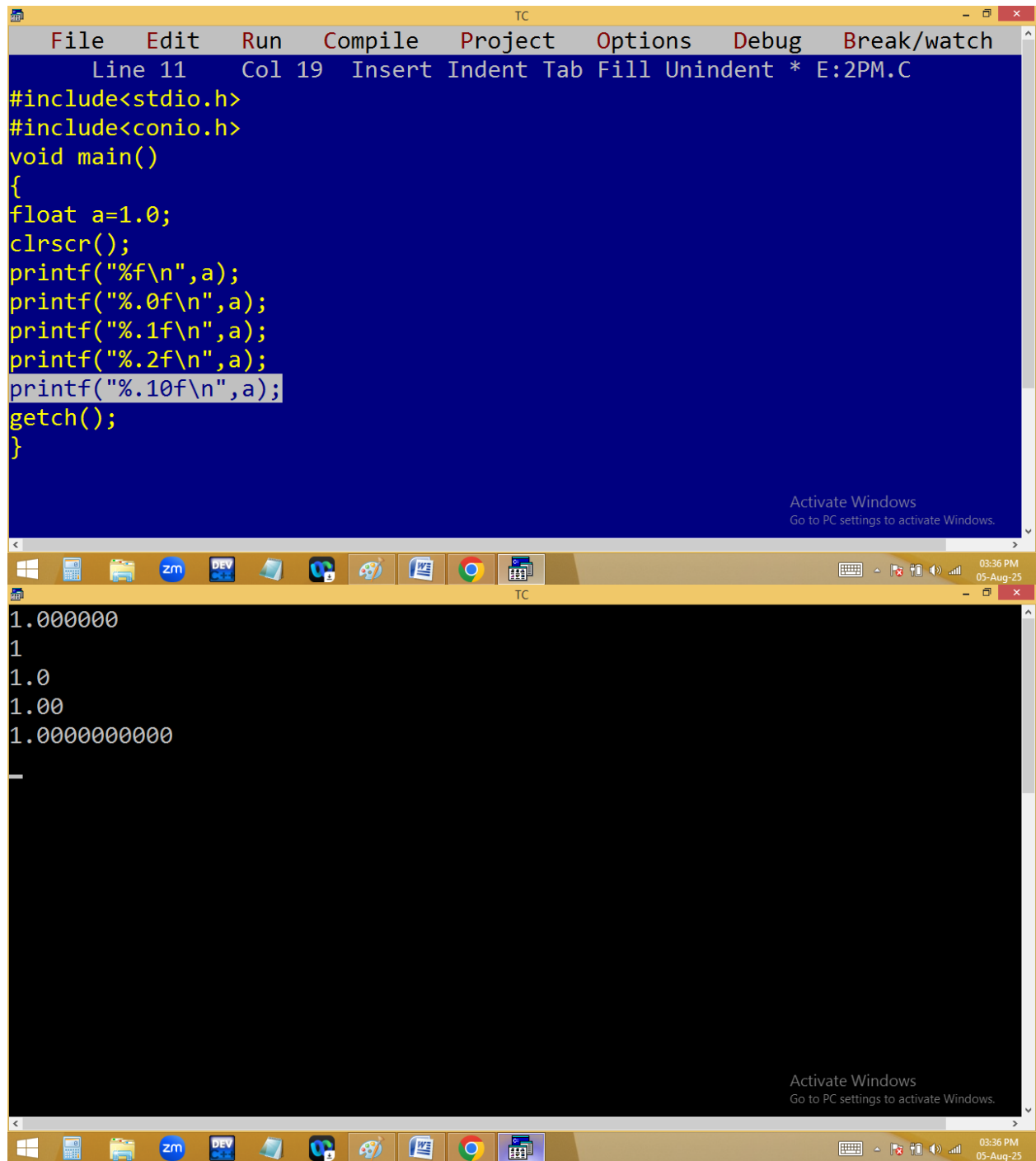
```
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 18 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%d\n",1.2);
printf("%d\n",1.5);
printf("%d\n",1.0);
printf("%d\n",3.3);

getch();
}
```

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

```
13107
0
0
26214
```

Both windows have a status bar at the bottom that says "Activate Windows Go to PC settings to activate Windows." The Windows taskbar is visible at the bottom of the screen, showing the time as 03:33 PM on 05-Aug-23.



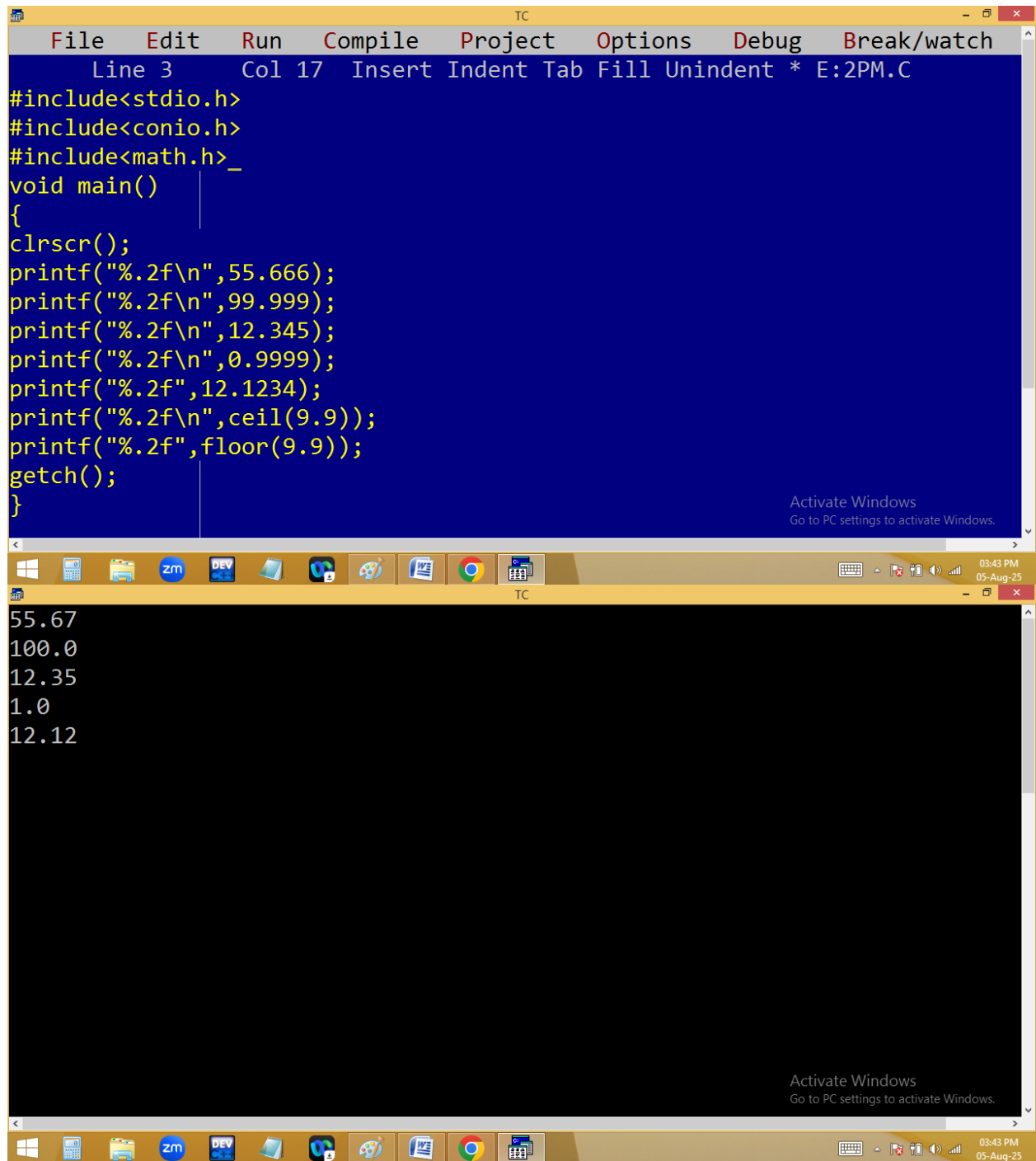
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window displays a C program with the following code:

```
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 19 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
float a=1.0;
clrscr();
printf("%f\n",a);
printf("%.0f\n",a);
printf("%.1f\n",a);
printf("%.2f\n",a);
printf("%.10f\n",a);
getch();
}
```

The bottom window shows the output of the program:

```
1.000000
1
1.0
1.00
1.0000000000
_
```

The Windows taskbar at the bottom shows the time as 03:36 PM on 05-Aug-23. An "Activate Windows" watermark is visible in the bottom right corner of both windows.



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 3 Col 17 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
#include<math.h>_
void main()
{
clrscr();
printf("%.2f\n",55.666);
printf("%.2f\n",99.999);
printf("%.2f\n",12.345);
printf("%.2f\n",0.9999);
printf("%.2f",12.1234);
printf("%.2f\n",ceil(9.9));
printf("%.2f",floor(9.9));
getch();
}
```

The bottom window shows the output of the program:

```
55.67
100.0
12.35
1.0
12.12
```

Both windows include a taskbar at the bottom with various application icons and a system tray showing the time as 03:43 PM on 05-Aug-23. An "Activate Windows" watermark is visible in the bottom right corner of both windows.

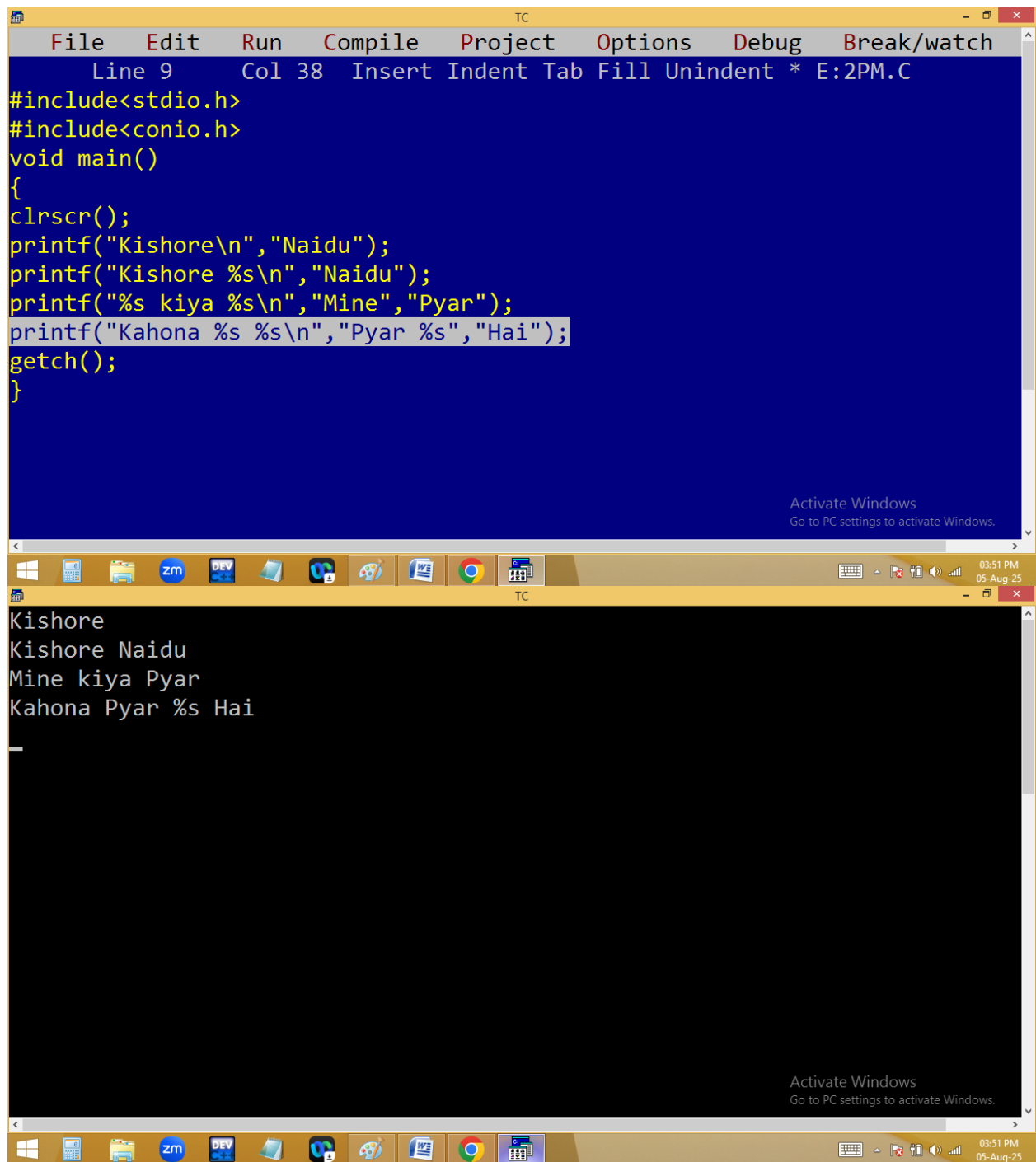
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the code editor, which has a blue background and displays the following C code:

```
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 1 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
char name[]="Kishore";
clrscr();
printf("%10s\n",name);
printf("%.3s\n",name);
printf("%10.3s",name);
getch();
}
```

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

```
Kishore
Kis
    Kis
```

The Windows taskbar is visible at the bottom of the screen, showing the Start button, taskbar icons for various applications (including a calculator, file explorer, and web browser), and the system tray with the date and time (03:46 PM, 05-Aug-23). An "Activate Windows" watermark is present in the bottom right corner of the output window.



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the source code editor, which has a blue background. It contains a C program with the following code:

```
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 38 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("Kishore\n","Naidu");
printf("Kishore %s\n","Naidu");
printf("%s kiya %s\n","Mine","Pyar");
printf("Kahona %s %s\n","Pyar %s","Hai");
getch();
}
```

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

```
Kishore
Kishore Naidu
Mine kiya Pyar
Kahona Pyar %s Hai
```

Both windows have a taskbar at the bottom with various application icons and a system tray showing the time as 03:51 PM on 05-Aug-23. An "Activate Windows" watermark is visible in the bottom right corner of both windows.