

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

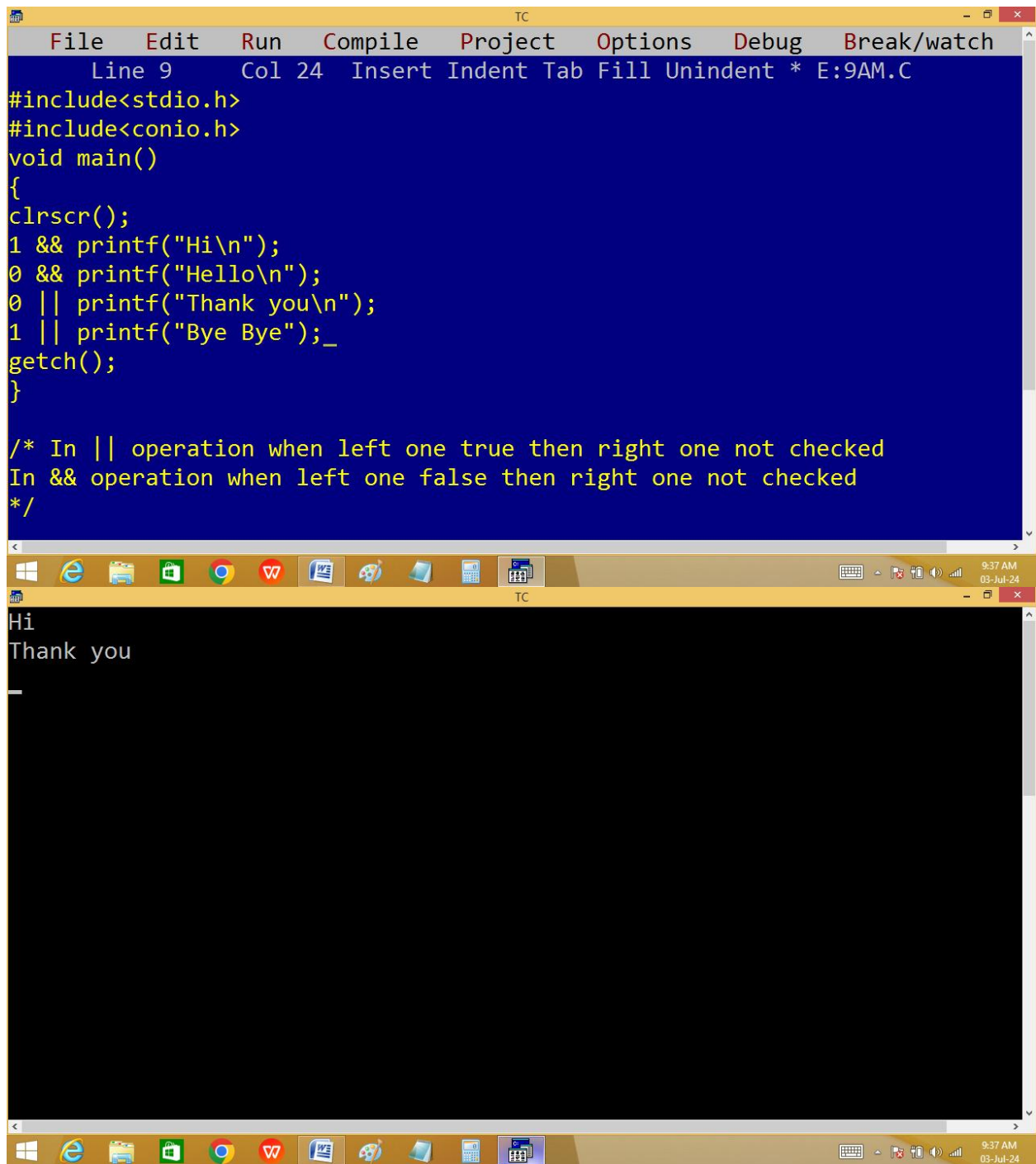
```
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 25 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("I Like")||printf("Samantha");
printf("") || printf(" Jhanvi Kapoor");
printf("") && printf("Thank You");
printf("\n") && printf("Good Bye");
getch();
}

/* In || operation when left one true then right one not checked
In && operation when left one false then right one not checked
*/
```

The bottom window shows the output of the program:

```
I Like Jhanvi Kapoor
Good Bye_
```

The Windows taskbar at the bottom indicates the time is 9:35 AM on 03-Jul-24. The taskbar includes icons for the Start menu, Internet Explorer, File Explorer, Microsoft Word, Google Chrome, and other applications.



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the source code editor, which has a blue background and yellow text. It contains a C program that prints "Hi", "Hello", "Thank you", and "Bye Bye" in sequence. The code uses `printf` and `clrscr` functions. Below the code, there is a comment explaining the difference between `&&` (AND) and `||` (OR) operators. The bottom window is the output window, which has a black background and white text, showing the first two lines of the program's output: "Hi" and "Thank you". The Windows taskbar at the bottom shows the time as 9:37 AM on 03-Jul-24.

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 24 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
1 && printf("Hi\n");
0 && printf("Hello\n");
0 || printf("Thank you\n");
1 || printf("Bye Bye");_
getch();
}

/* In || operation when left one true then right one not checked
In && operation when left one false then right one not checked
*/
```

Hi
Thank you

Increment / Decrement/modify Operators [++ / --]:

They are used to increment / decrement a variable value by 1.

Eg:

Int a =3, b=11;

a++; ➔ i.e. a=a+1 ➔ a=4

b--; ➔ i.e. b=b-1 ➔ b=10

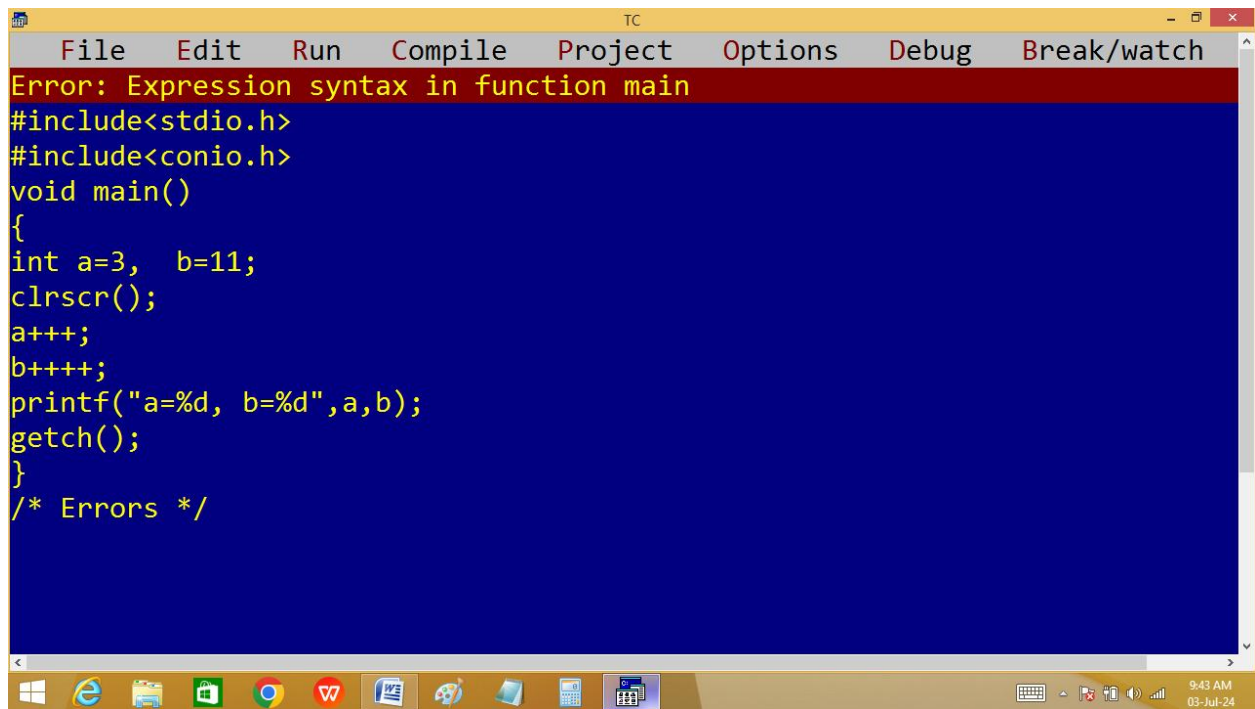
The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the source code editor, which has a blue background and displays the following C code:

```
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 1 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=3, b=11;
clrscr();
a++;
b--;
printf("a=%d, b=%d",a,b);
getch();
}
```

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

```
a=4, b=10_
```

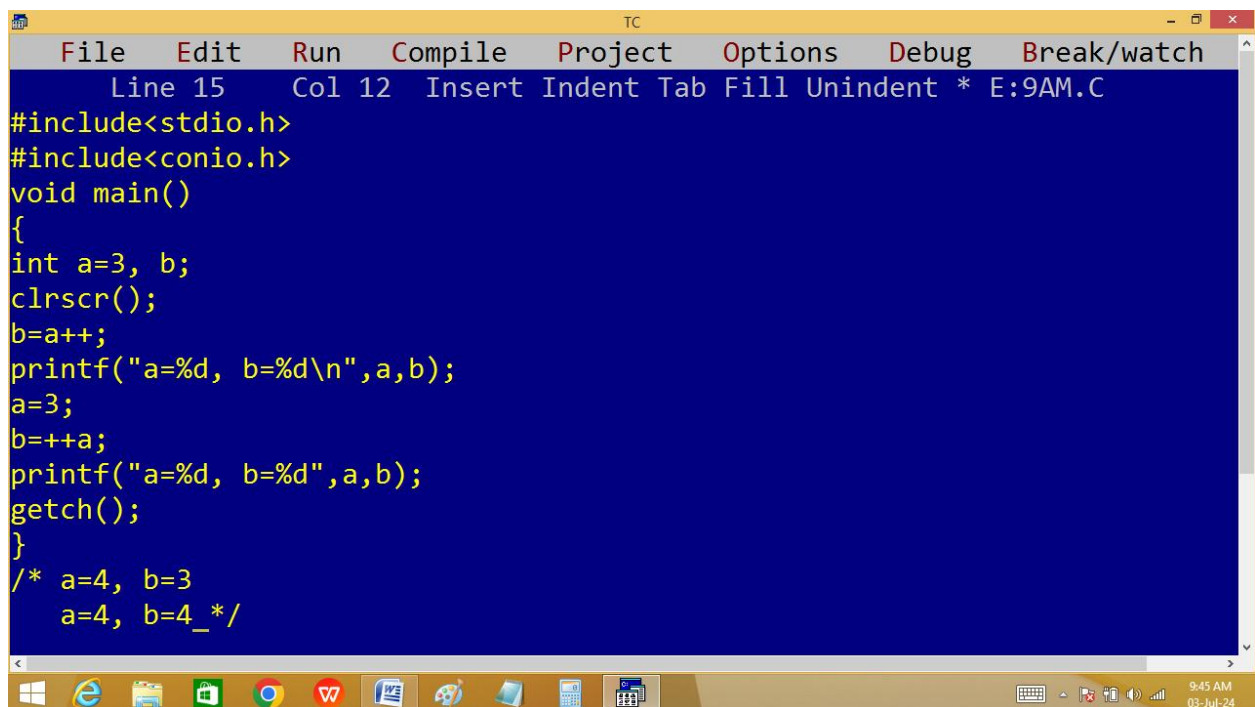
The Windows taskbar is visible at the bottom of the screen, showing various application icons and the system clock indicating 9:41 AM on 03-Jul-24.



The screenshot shows the Turbo C++ (TC) IDE with a menu bar (File, Edit, Run, Compile, Project, Options, Debug, Break/watch) and a toolbar. The main window has a blue background with yellow text. A red error message bar at the top reads "Error: Expression syntax in function main". The code in the editor is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a=3, b=11;
clrscr();
a++;
b++++;
printf("a=%d, b=%d",a,b);
getch();
}
/* Errors */
```

The Windows taskbar at the bottom shows the time as 9:43 AM on 03-Jul-24.



The screenshot shows the Turbo C++ (TC) IDE with the same menu bar and toolbar. The main window has a blue background with yellow text. A status bar at the top of the editor area shows "Line 15 Col 12 Insert Indent Tab Fill Unindent * E:9AM.C". The code in the editor is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a=3, b;
clrscr();
b=a++;
printf("a=%d, b=%d\n",a,b);
a=3;
b=++a;
printf("a=%d, b=%d",a,b);
getch();
}
/* a=4, b=3
a=4, b=4_*/
```

The Windows taskbar at the bottom shows the time as 9:45 AM on 03-Jul-24.

postfix increment:

a=3

b=a++; priority: =, a++

1. b=a ==> b=3

2. a++ ==> a=4

prefix increment:

a=3

b=++a; priority: ++a, =

1. ++a==> a=4

2. b=a ==> b=4

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 15 Col 12 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=3, b;
clrscr();
b=a--;
printf("a=%d, b=%d\n",a,b);
a=3;
b=--a;
printf("a=%d, b=%d",a,b);
getch();
}
/* a=2, b=3
   a=2, b=2 */
```

a=3

b=a--; priority: =, a--

1. b=a==> b=3

2. a-- ==> a=2

a=3

b=--a; priority: --a, =

1. --a ==> a=2

2. b=a==> b=2

Note: Always pre is first and post is last

```
TC
#include<stdio.h>
#include<conio.h>
void main()
{
int a=3;
clrscr();
a=a--; /*postfix decr */
printf("a=%d\n",a);
a=3;
a=--a; /* prefix decr */
printf("a=%d",a);
getch();
}
/* a=2
a=2
Note: Until assigning to any other variable pre and post are same */
*/
```

a=3

a=a--; priority: =, a--

1. a=a ==> a=3

2. a-- ==> a=2

a=3

a=--a; priority: --a, =

1. --a ==> a=2

2. a=a==> a=2


```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 15 Col 13 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=3, b;
clrscr();
b=a++ + a++ + a++; /*postfix incr */
printf("a=%d, b=%d\n",a,b);
a=3;
b=++a + ++a + ++a; /* prefix incr */
printf("a=%d, b=%d",a,b);
getch();
}
/* a=6, b=9
   a=6, b=18_
  */
```

a=3

b= a++ + a++ + a++;

priority: +, =, a++

1. b = a + a + a ==> 3 + 3 + 3

2. b = 9

3. a++ ==> a=4, a++ ==> a=5, a++ ==> a=6

a=3

b=++a + ++a + ++a;

priority: ++a, +, =

1. ++a==>a=4, ++a==>a=5, ++a==>a=6

2. b = a + a + a ==> 6 + 6 + 6

3. b = 18

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 15 Col 13 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=3, b;
clrscr();
b=++a + a++ * ++a;
printf("a=%d, b=%d\n",a,b);
a=3;
b= ++a + a-- + --a + a++;
printf("a=%d, b=%d",a,b);
getch();
}
/* a=6, b=30
a=3, b=12
*/
```

a=3

b= ++a + a++ * ++a;

priority: ++a, *, +, =, a++

1. ++a==>a=4, ++a==>a=5

2. b = a + a * a; ==> 5 + 5*5

3. b = 5 + 25

4. b = 30

5. a++ ==> a=6

a=3

b= ++a + a-- + --a + a++;

priority: ++a,--a,+,=,a++,a--

1. ++a==>a=4

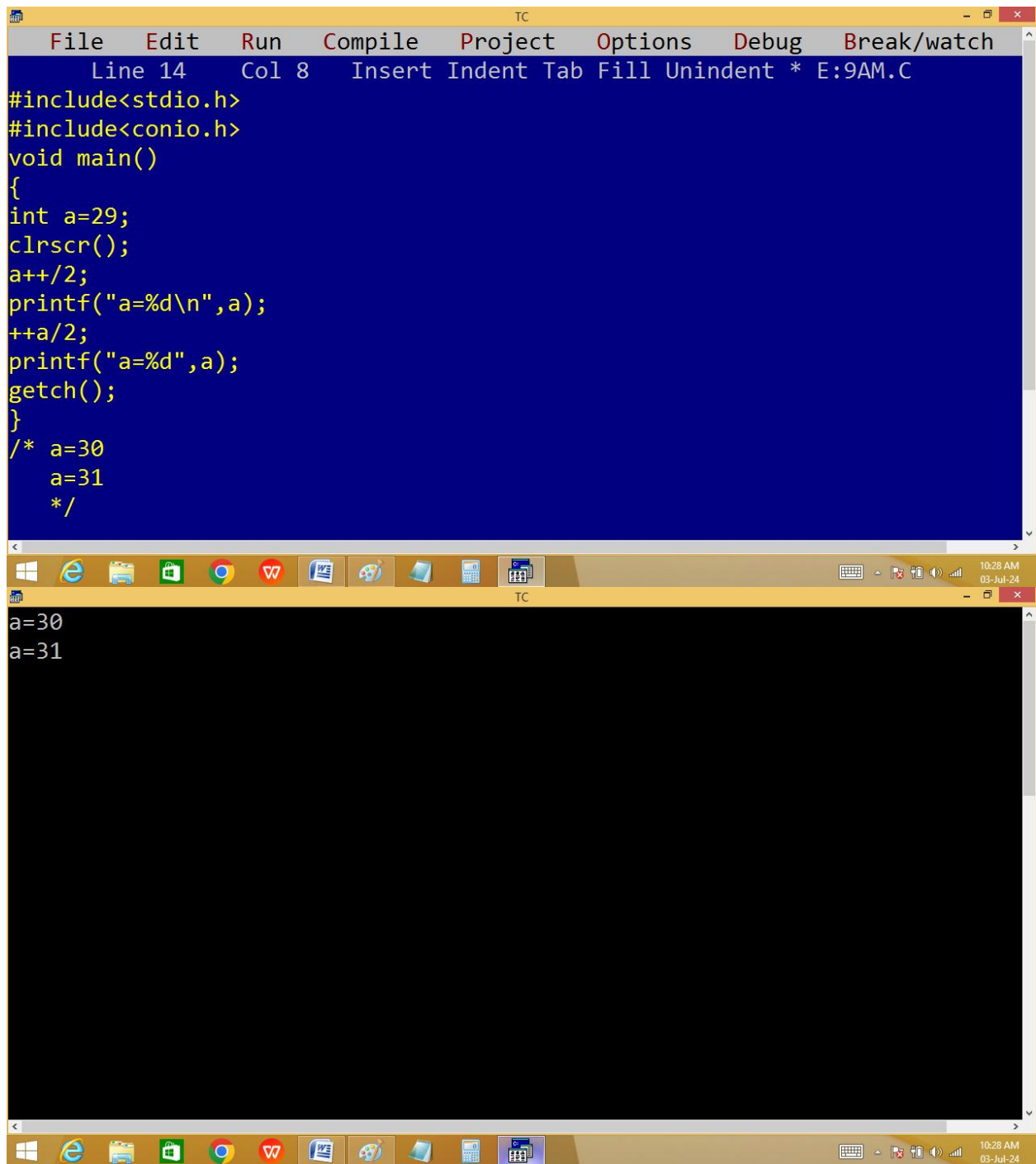
2. --a==>a=3

3. b= a+a+a+a==>3+3+3+3

4. b=12

5. a++==>a=4

6. a--==>a=3



The image shows a screenshot of the Turbo C++ (TC) IDE. The top window is the source code editor, titled 'TC', with a menu bar (File, Edit, Run, Compile, Project, Options, Debug, Break/watch) and a status bar (Line 14, Col 8, Insert, Indent, Tab, Fill, Unindent, * E:9AM.C). The code is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a=29;
clrscr();
a++/2;
printf("a=%d\n",a);
++a/2;
printf("a=%d",a);
getch();
}
/* a=30
   a=31
  */
```

The bottom window is the output console, also titled 'TC', which displays the program's output:

```
a=30
a=31
```

The Windows taskbar at the bottom shows the time as 10:28 AM on 03-Jul-24.

a=29

a++/2; **priority: a/2, a++**

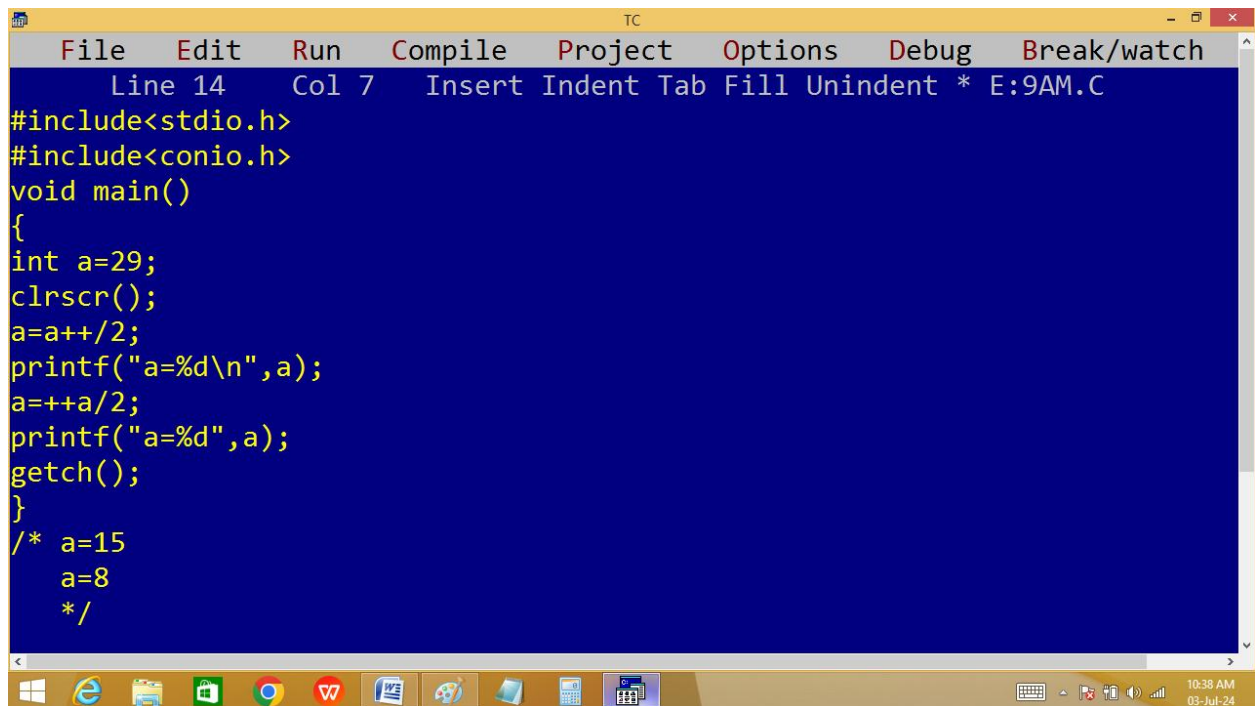
1. $a/2 \Rightarrow 29/2 = 14$ [14 not stored because of = op not used i.e. a=29]

2. a++ \Rightarrow **a=30**

++a/2; priority: ++a, /

1. ++a \Rightarrow **a=31**

2. $a/2 = 31/2 = 15$ [15 not stored because of = op not used i.e. **a=31**]



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 14 Col 7 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=29;
clrscr();
a=a++/2;
printf("a=%d\n",a);
a=++a/2;
printf("a=%d",a);
getch();
}
/* a=15
a=8
*/
```

a=29

a=a++/2; priority: /, =, a++

1. a=a/2==>29/2=14

2. a=14

3. a++ ==> a=15

a=++a/2; priority: ++a, /, =

1. ++a==>16

2. a=a/2==> 16/2==> a=8

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

```
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 18 Insert Indent Tab Fill Unindent * E:9AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=29;
clrscr();
printf("%d\n",a++/2);
printf("%d\n",++a/2);
printf("a=%d",a);_
getch();
}
```

The bottom window is the output console, which has a black background and shows the execution results:

```
14
15
a=31_
```

The Windows taskbar is visible at the bottom of the screen, showing various application icons and the system clock indicating 10:42 AM and 10:43 AM on 03-Jul-24.

a=29

```
printf("%d", a++/2 );
```

priority: /, a++

1. $a/2 \Rightarrow 29/2 = 14$ \Leftarrow print [14 only printed not stored i.e. a=29]

2. $a++ \Rightarrow a=30$

```
printf("%d", ++a/2);
```

priority: ++a,/

$++a \Rightarrow a=31$

$\text{printf}(31/2) \Rightarrow 15$ [15 printed not stored i.e. a=31]

$\text{printf}(a) \Rightarrow 31$

