

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 15 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=100;
clrscr();
printf("a=%d\n",a++/2);
printf("a=%d\n",++a/2);
printf("a=%d",a);
getch();
}
/* a=50
a=51
a=102*/
```

a=100

p("%d\n", a++/2); priority: /, printf, a++

1. 100/2=50

2. p(50) ==> 50 printed not stored i.e. a = 100

3. a++ ==> 101

p("%d",++a/2); priority: ++a, /, printf

1. ++a ==> 102

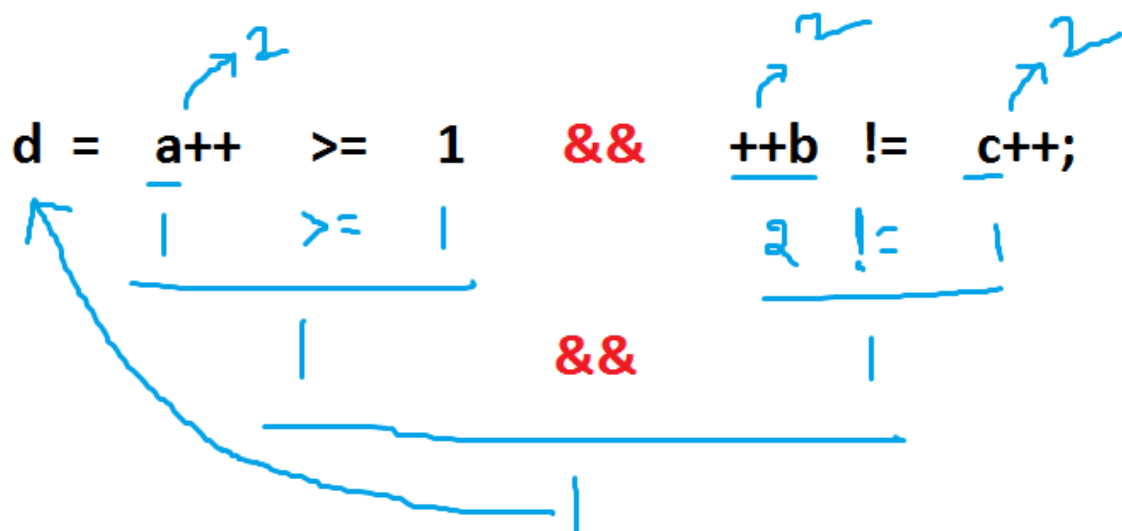
2. 102/2=51

3. p(51) ==> 51 printed not stored i.e. a=102

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 22 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c,d;
clrscr();
a=b=c=1;
d = a++ >= 1 && ++b != c++;
printf("a=%d, b=%d, c=%d, d=%d",a,b,c,d);
getch();
}
/* a=2, b=2, c=2, d=1 */

Activate Windows
Go to PC settings to activate Windows.
```

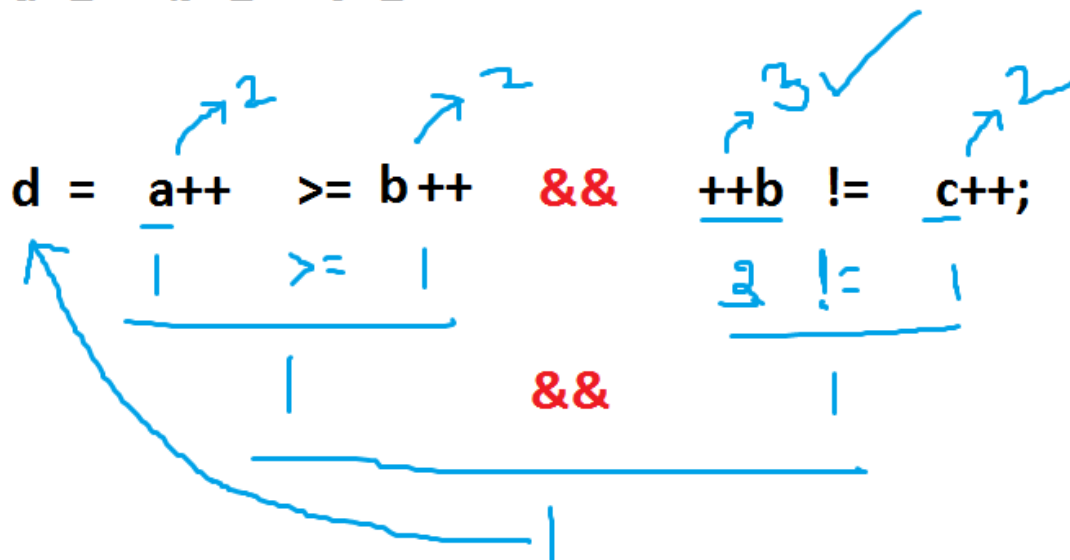
a=1 b=1 c=1



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 12 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c,d;
clrscr();
a=b=c=1;
d = a++ >= b++ && ++b != c++;
printf("a=%d, b=%d, c=%d, d=%d",a,b,c,d);
getch();
}
/* a=2, b=3, c=2, d=1 */

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```

a=1 b=1 c=1



```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 17 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c,d;
clrscr();
a=b=c=1;
d = a++ >= b++ || ++b != c++;
printf("a=%d, b=%d, c=%d, d=%d",a,b,c,d);
getch();
}
/* a=2, b=2, c=1, d=1 */

Activate Windows
Go to PC settings to activate Windows.
```

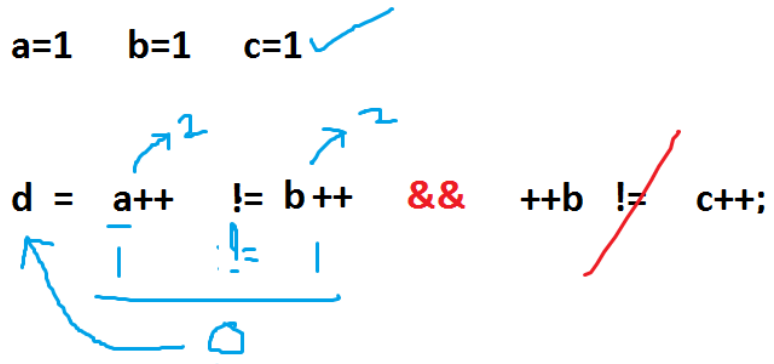
a=1 b=1 c=1 ✓

d = a++ >= b++ || ++b != c++;

Note: In || operation when left exp true, right exp not considered.

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 12 Col 22 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c,d;
clrscr();
a=b=c=1;
d = a++ != b++ && ++b != c++;
printf("a=%d, b=%d, c=%d, d=%d",a,b,c,d);
getch();
}
/* a=2, b=2, c=1, d=0 */

Activate Windows
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```



Note: In **&&** operation when left exp **false**, right exp not considered.

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 22 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=0,b=1,c=2,d;
clrscr();
d = a++ || ++b || --c;
printf("a=%d, b=%d, c=%d, d=%d",a,b,c,d);
getch();
}
/* a=1, b=2, c=2, d=1_*/

Activate Windows
Go to PC settings to activate Windows.
```

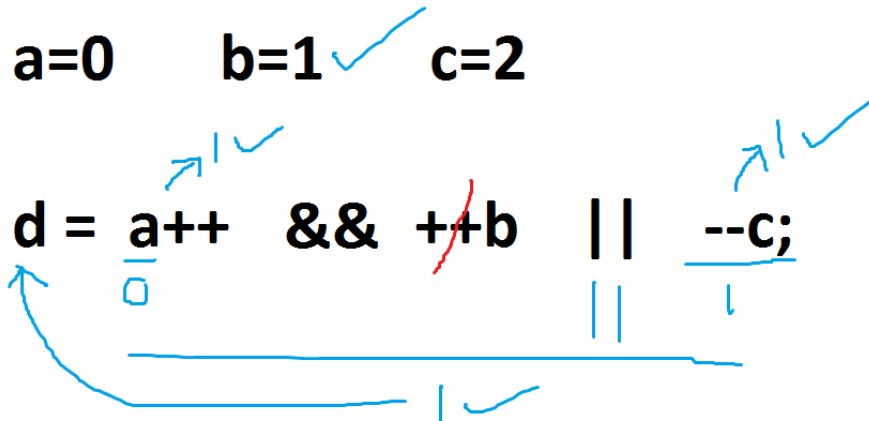
a=0 b=1 c=2 ✓

d = a++ || ++b || ~~--c;~~

The diagram illustrates the execution of the expression `d = a++ || ++b || --c;`. Blue arrows show the flow of evaluation: from `a++` to `d`, from `++b` to `d`, and from `a++` to `++b`. Checkmarks are placed above `a++`, `++b`, and below the entire expression. The `--c;` part is crossed out with a blue line, indicating it is not executed due to short-circuiting.

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 17 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=0,b=1,c=2,d;
clrscr();
d = a++ && ++b || --c;
printf("a=%d, b=%d, c=%d, d=%d",a,b,c,d);
getch();
}
/* a=1, b=1, c=1, d=1 */

Activate Windows
Go to PC settings to activate Windows.
```

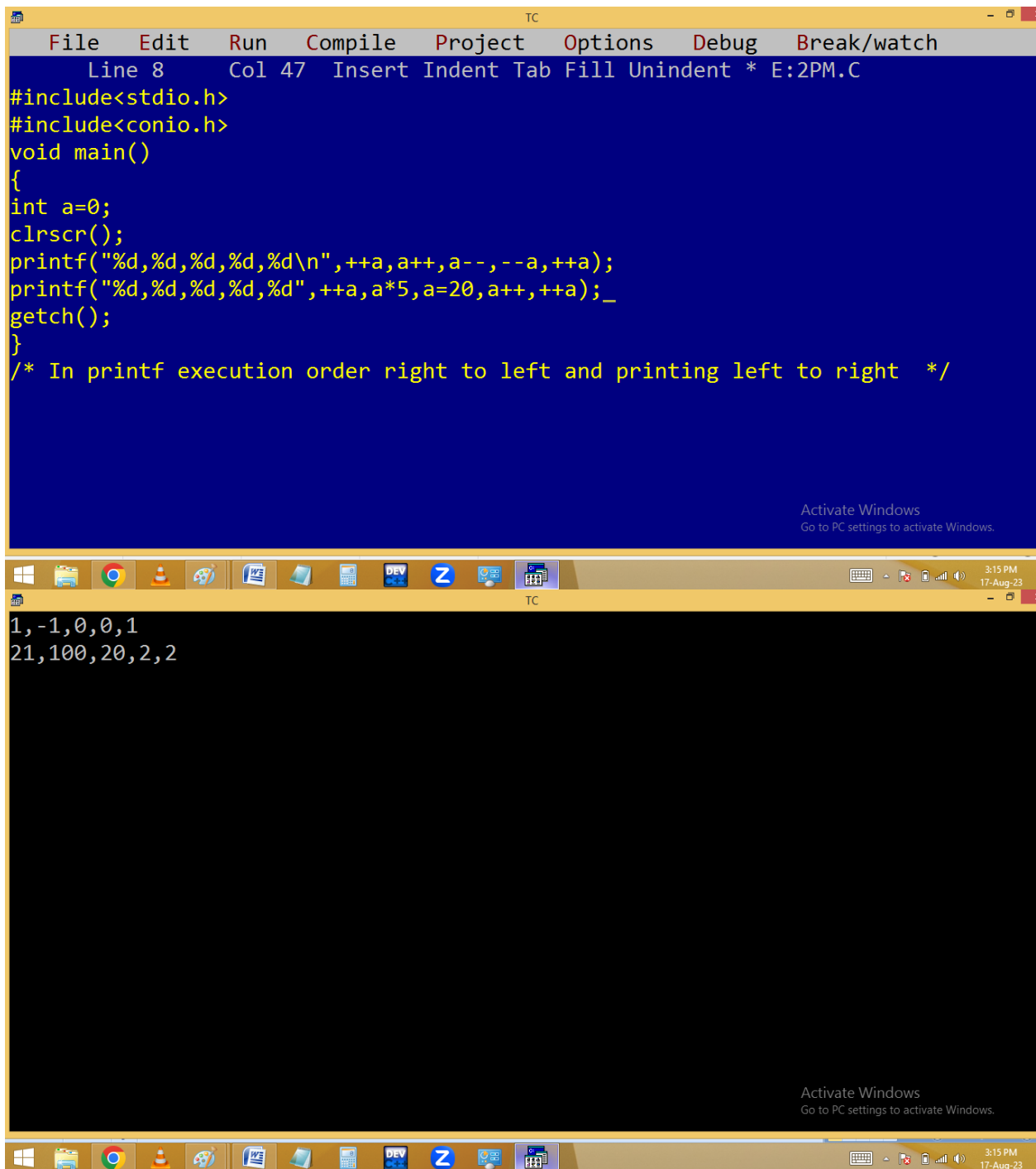


```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 22 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=0,b=1,c=2,d;
clrscr();
d = a++ && ++b && --c;
printf("a=%d, b=%d, c=%d, d=%d",a,b,c,d);
getch();
}
/* a=1, b=1, c=2, d=0 */

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```

a=0 b=1 ✓ c=2 ✓

d = a++ && ~~++b~~ && ~~--c~~;
 0 ✓



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

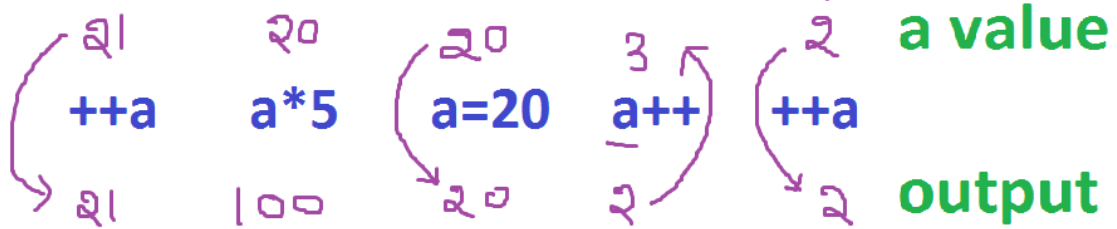
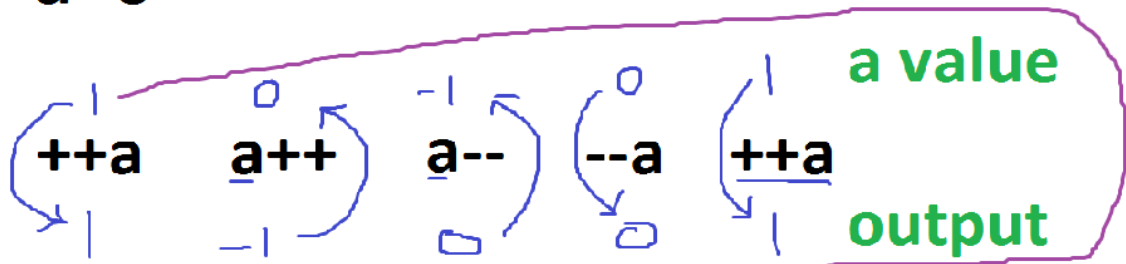
```
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 47 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=0;
clrscr();
printf("%d,%d,%d,%d,%d\n",++a,a++,a--,--a,++a);
printf("%d,%d,%d,%d,%d",++a,a*5,a=20,a++,++a);_
getch();
}
/* In printf execution order right to left and printing left to right */
```

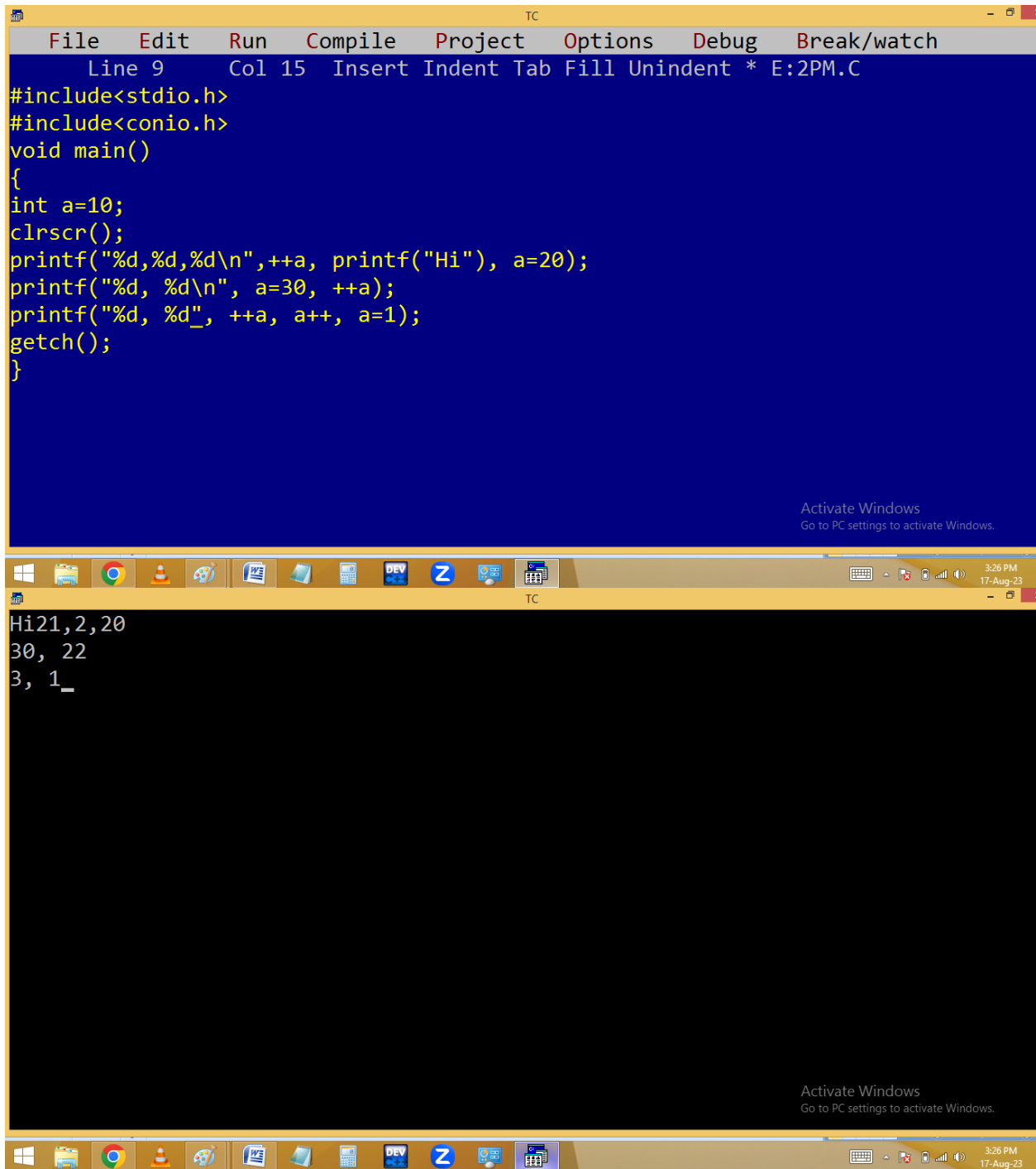
The bottom window shows the output of the program:

```
1, -1, 0, 0, 1
21, 100, 20, 2, 2
```

The Windows taskbar at the bottom indicates the time is 3:15 PM on 17-Aug-23. An "Activate Windows" watermark is visible in the bottom right corner of the output window.

a=0





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 15 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=10;
clrscr();
printf("%d,%d,%d\n",++a, printf("Hi"), a=20);
printf("%d, %d\n", a=30, ++a);
printf("%d, %d_", ++a, a++, a=1);
getch();
}
```

The bottom window shows the output of the program:

```
Hi21,2,20
30, 22
3, 1_
```

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 the system clock as 3:26 PM on 17-Aug-23.

```
TC
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 9 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=10;
clrscr();
a=a++ + ++a;
printf("%d\n",a);
a=10;
printf("%d",a++ + ++a);
getch();
}
/*
23
22
*/
```

Activate Windows
Go to PC settings to activate Windows.

a=10

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

1. ++a ==> a=11

2. a = a + a ==> 11+11 =22

3. a = 22

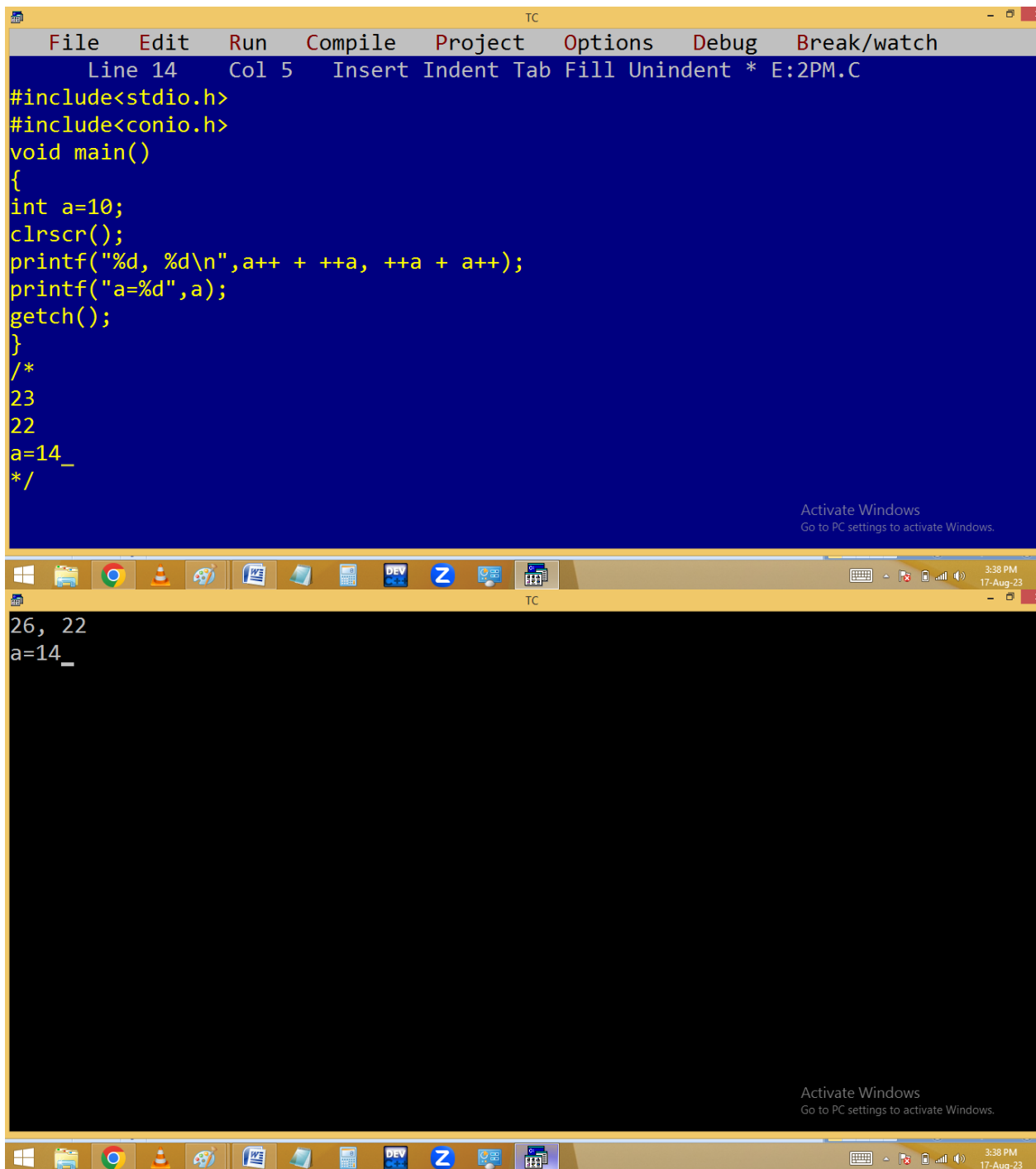
4. a++ ==> a=23

~~a=10~~ ++ 12

↗ || ↘ 12
p("%d", a++ + ++a);

10 + 12
22

↖



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 14 Col 5 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=10;
clrscr();
printf("%d, %d\n",a++ + ++a, ++a + a++);
printf("a=%d",a);
getch();
}
/*
23
22
a=14_
*/
```

The bottom window shows the output of the program:

```
26, 22
a=14_
```

The Windows taskbar at the bottom shows the time as 3:38 PM on 17-Aug-23. An "Activate Windows" watermark is visible in the bottom right corner of both windows.

~~a=10~~ // 12, 13, 14
~~12~~ 13 14
 p("%d , %d", ~~a++ + ++a~~ , ~~++a + a++~~);

$$\begin{array}{r} 12 + 14 \\ \hline 26 \end{array}$$

$$\begin{array}{r} 11 + 11 \\ \hline 22 \end{array}$$

```

TC
File Edit Run Compile Project Options Debug Break/watch
Line 13 Col 1 Insert Indent Tab Fill Unindent * E:2PM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=10,b;
clrscr();
b = a++ + ++a;
b = b + !printf("Thank you\n");
b = a + printf("Good bye\n");
printf("a=%d, b=%d\n",a,b);
getch();
}

```

Activate Windows
Go to PC settings to activate Windows.

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a=10

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

++a==>a=11

b = a + a ==> 11+11

b=22

a++ ==> **a=12**

b = a + p("Good bye\n");

b=b+!p("Thank you\n");

$\frac{5}{3}$
→ 0 10

b = 22 + 0 = 22

9 = 21