

```
TC
File Edit Run Compile Project Options Debug
Line 11 Col 40 Insert Indent Tab Fill Unindent *
#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=6, b=9 */
a=3;
b = ++a + ++a + ++a;
printf("a=%d, b=%d",a,b); /* a=6, b=18_ */
getch();
}
```

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
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Line 11 Col 40 Insert Indent Tab Fill Unindent *
#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=6, b=30 */
a=3;
b = ++a + a-- + a++ + --a;
printf("a=%d, b=%d",a,b); /* a=3, b=12_ */
getch();
}
```

**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**

```
TC
File Edit Run Compile Project Options Debug
Line 9 Col 39 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
int a=3,b=2;
clrscr();
a = a++ + ++b;
b = ++a + b++;
printf("a=%d, b=%d",a,b); /* a=8, b=12 */
getch();
}
```

**a=3, b=2**

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

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

**1. ++b==> b=3**

**2. a = a + b ==> 3 + 3**

**3. a = 6**

**4. a++ ==> a=7**

**a=7, b=3**

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

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

**1. ++a ==> a=8**

**2. b = a + b ==> 8 + 3**

**3. b = 11**

**4. b++ ==> b=12**

```
TC
File Edit Run Compile Project Options Debug
Line 11 Col 1 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
int a=30;
clrscr();
a++/2;
printf("a=%d\n",a); /* a=31 */
++a/2;
printf("a=%d",a); /* a=32 */
getch();
}
```

a=30

a++/2;

priority: /, a++

1.  $a/2 \Rightarrow 30/2=15$  [ 15 not stored in a because of = not used i.e. a = 30 ]

2. a++  $\Rightarrow$  a=31

printf(a)  $\Rightarrow$  31

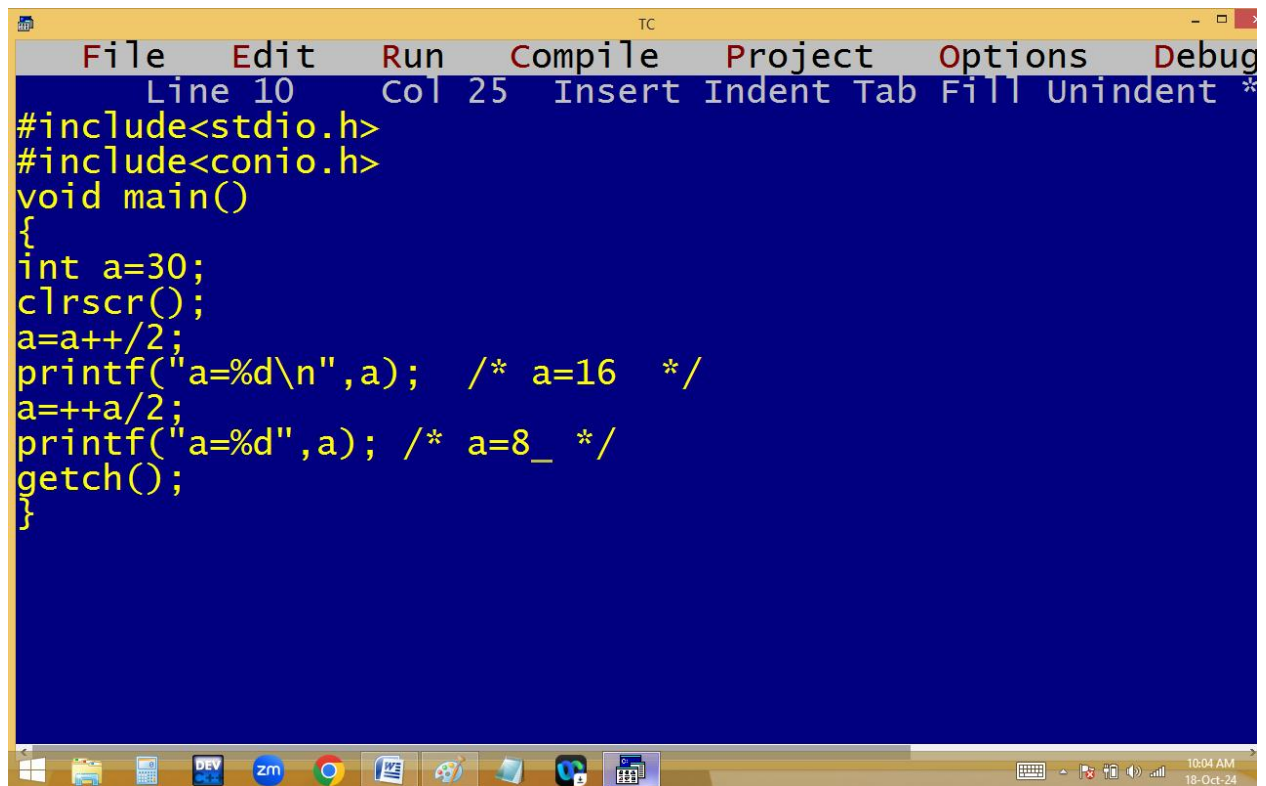
++a/2;

priority: ++a, /

1. ++a  $\Rightarrow$  a=32

2.  $a/2 \Rightarrow 32/2=16$  [ 16 not stored in a because of = not used i.e. a=32 ]

printf(a)  $\Rightarrow$  a=32



```
TC
File Edit Run Compile Project Options Debug
Line 10 Col 25 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
int a=30;
clrscr();
a=a++/2;
printf("a=%d\n",a); /* a=16 */
a=++a/2;
printf("a=%d",a); /* a=8_ */
getch();
}
```

10:04 AM  
18-Oct-24

**a=30**

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

**1. a=a/2==>30/2**

**2. a=15**

**3. a++ ==>a=16**

**printf(a) ==> 16**

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

**1. ++a==>a=17**

**2. a=a/2 ==> 17/2**

**3. a=8**

**printf(a)==> 8**



```
TC
File Edit Run Compile Project Options Debug
Line 8 Col 30 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
int a=30;
clrscr();
printf("a=%d\n",a++/2); /* a=15 */
printf("a=%d",++a/2); /* a=16_ */
getch();
}
```

10:07 AM  
18-Oct-24

```
TC
File Edit Run Compile Project Options Debug
Line 8 Col 15 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
int a=30;
clrscr();
printf("a=%d\n",a++/2); /* a=15 */
printf("a=%d\n",++a/2); /* a=16 */
printf("a=%d",a);
getch();
}
```

**a=30**

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

**1. a/2 ==> 30/2 = 15**

**2. printf(15) ==> 15 [ 15 printed not stored i.e. a=30 ]**

**3. a++ ==> a=31**

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

**1. ++a ==> a=32**

**2. a/2 ==> 32/2=16**

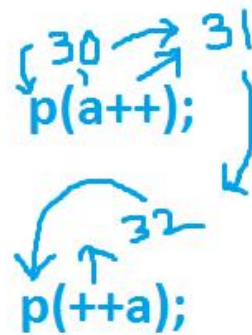
**3. printf(16) ==> 16 [ 16 printed not stored i.e. a=32 ]**

**printf(a) ==> 32**



```
TC
File Edit Run Compile Project Options Debug
Line 8 Col 30 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
int a=30;
clrscr();
printf("a=%d\n",a++); /* a=30 */
printf("a=%d\n",++a); /* a=32_ */
getch();
}
```

**a=30**



**p(a++); priority: printf, a++**

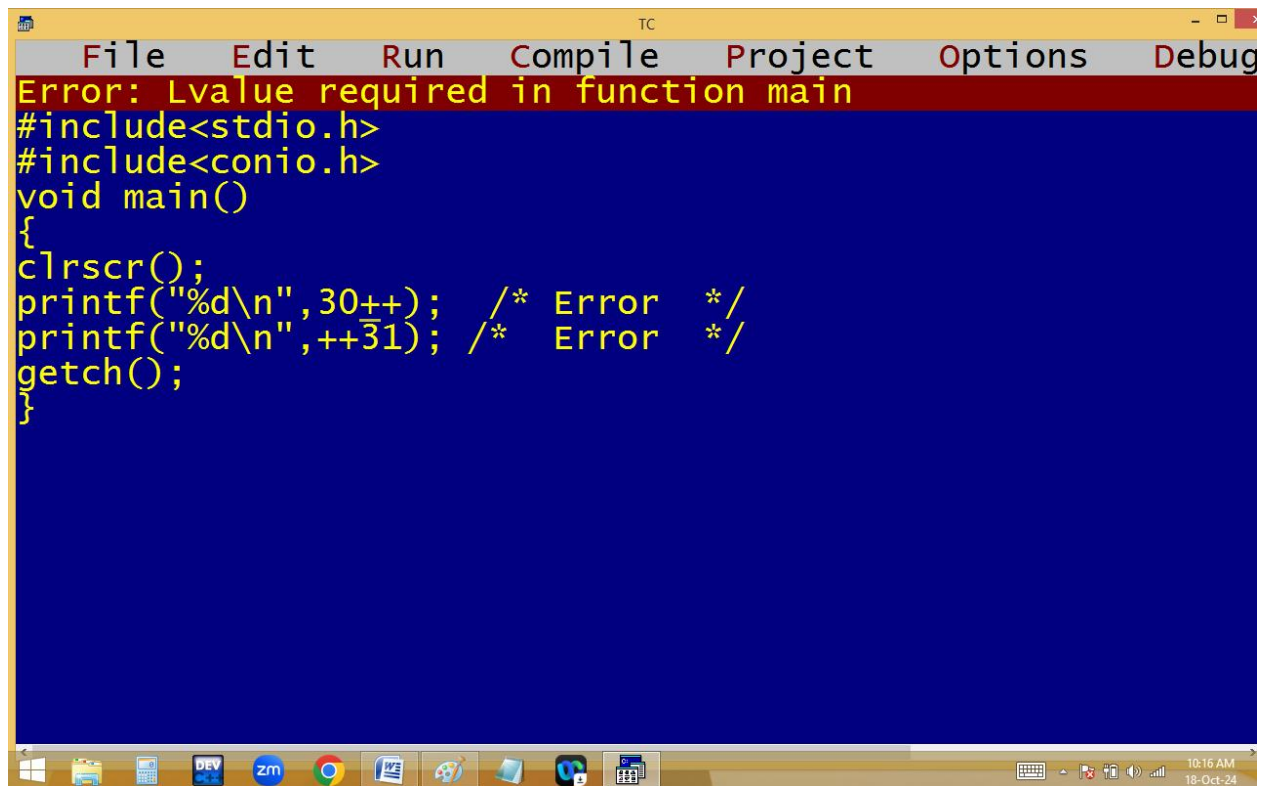
**printf(a) ==> a=30**

**a++ ==> 31**

**p(++a); priority: ++a, printf**

**++a ==> a=32**

**printf(a) ==> 32**



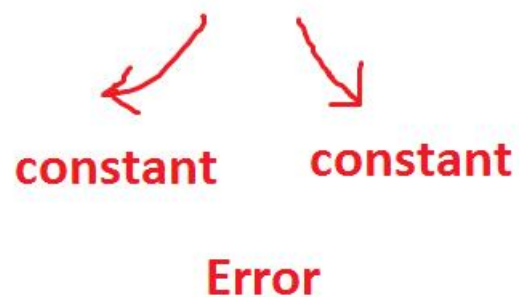
The screenshot shows a Turbo C++ (TC) compiler window. The menu bar includes File, Edit, Run, Compile, Project, Options, and Debug. A red error message banner at the top reads "Error: Lvalue required in function main". The code in the editor is as follows:

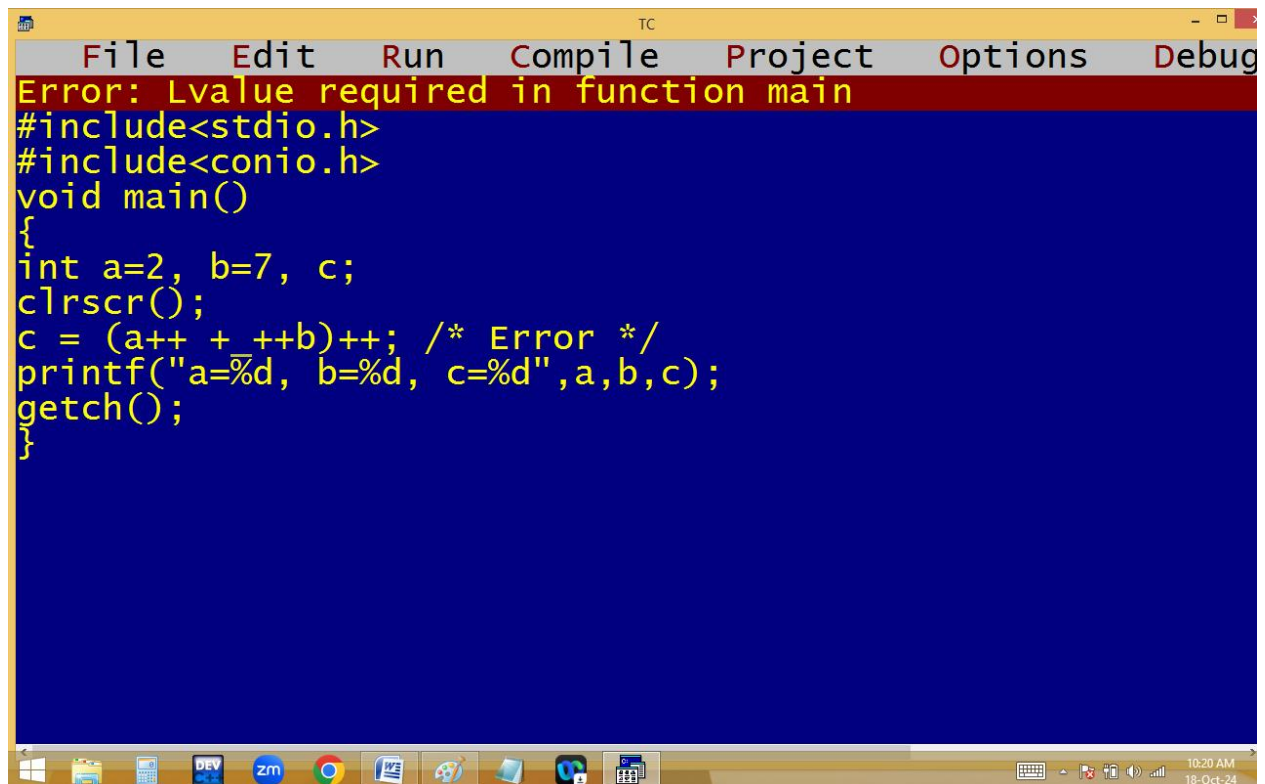
```
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%d\n",30++); /* Error */
printf("%d\n",++31); /* Error */
getch();
}
```

The Windows taskbar at the bottom shows various icons including Windows Explorer, DEV, zm, Google, and others. The system clock indicates 10:16 AM on 18-Oct-24.

**a++ means a=a+1**

**30++ means 30=30+1 ==> 30=31**





The screenshot shows the Turbo C++ (TC) IDE interface. The menu bar includes File, Edit, Run, Compile, Project, Options, and Debug. A red error message banner at the top reads "Error: Lvalue required in function main". The code editor contains the following C code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a=2, b=7, c;
clrscr();
c = (a++ + ++b)++; /* Error */
printf("a=%d, b=%d, c=%d",a,b,c);
getch();
}
```

The Windows taskbar at the bottom shows various icons including File Explorer, DEV, zm, Google, and others, along with the system clock indicating 10:20 AM on 18-Oct-24.

**a=2    b=7**

**c = (a++ + ++b)++;**

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

**1. ++b ==> 8**

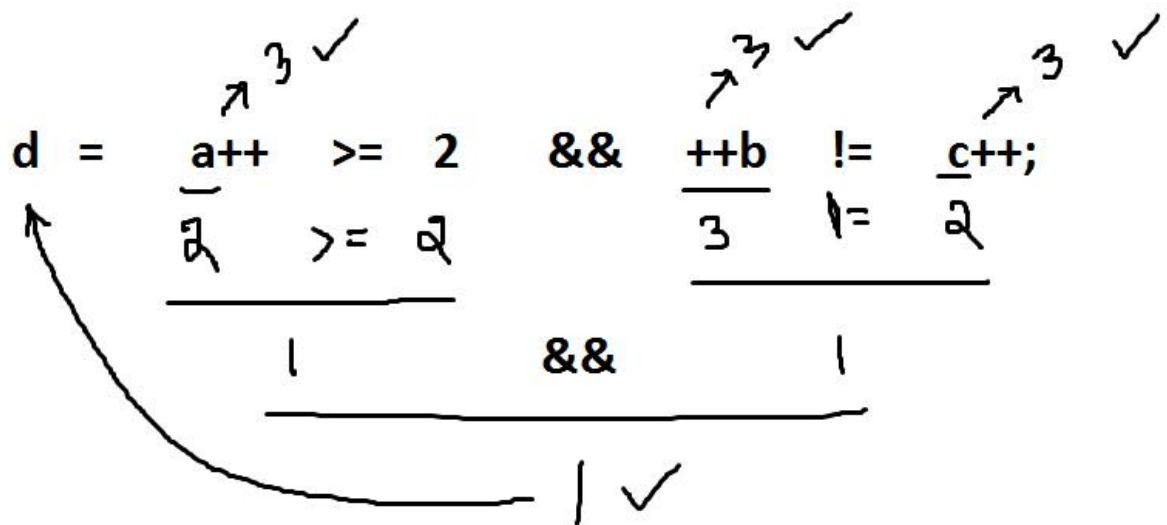
**2. c = a + b ==> 2+8 ==> 10++ ==> Error**

```

TC
File Edit Run Compile Project Options Debug
Line 12 Col 25 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c,d;
clrscr();
a=b=c=2;
d = a++ >=2 && ++b != c++;
printf("a=%d, b=%d, c=%d, d=%d",a,b,c,d);
getch();
}
/* a=3, b=3, c=3, d=1 */_

```

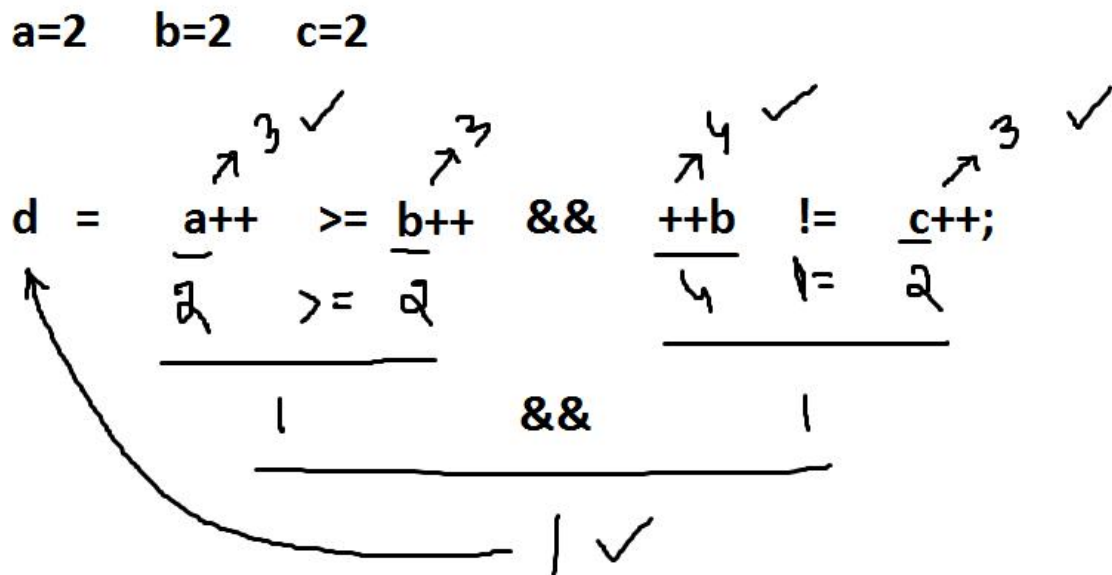
a=2    b=2    c=2



```

TC
File Edit Run Compile Project Options Debug
Line 12 Col 12 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c,d;
clrscr();
a=b=c=2;
d = a++ >= b++ && ++b != c++;
printf("a=%d, b=%d, c=%d, d=%d",a,b,c,d);
getch();
}
/* a=3, b=4, c=3, d=1 */

```



a=2   b=2   c=2 ✓

d = a++ >= ++b && ++b != c++;  
2   >=   3  
                0 ✓

Not checked

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

```
TC
File Edit Run Compile Project Options Debug
Line 12 Col 22 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c,d;
clrscr();
a=b=c=2;
d = a++ >= b++ || ++b != c++;
printf("a=%d, b=%d, c=%d, d=%d",a,b,c,d);
getch();
}
/* a=3, b=3, c=2, d=1 */
```



```
TC
a=3, b=3, c=2, d=1
```

a=2    b=2    c=2 ✓

d = a++ >= b++ || ++b != c++;  
          ↑        ↑        ↑        ↑  
          3        3        3        3 ✓  
          2        2        2        2  
          |        |        |        |  
          ✓        ✓        ✓        ✓

Not checked

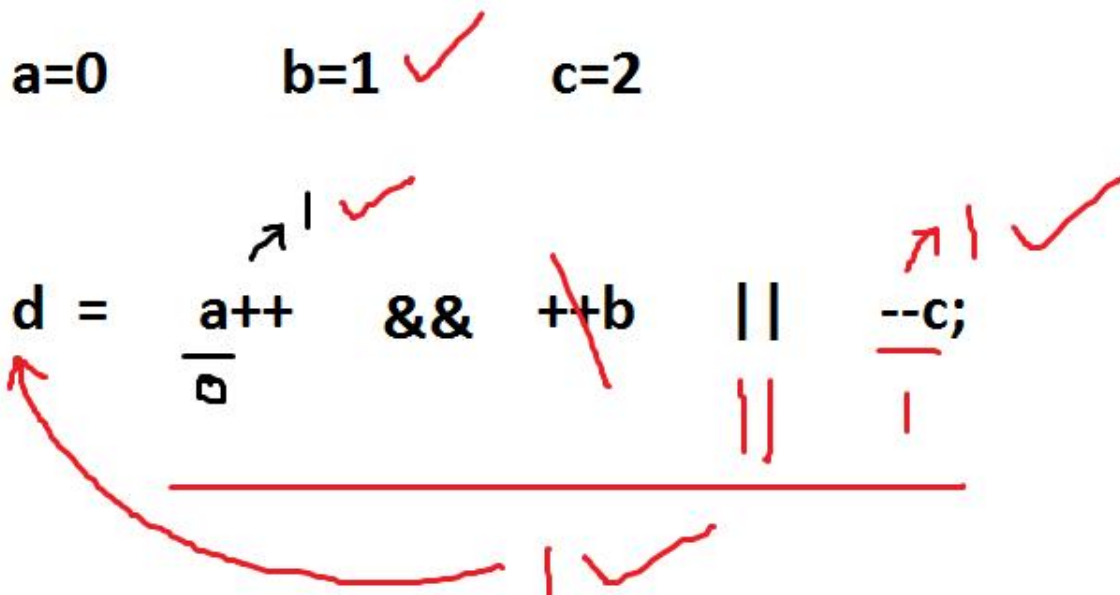
Note: In || operation when left exp true, right exp not checked

```
TC
File Edit Run Compile Project Options Debug
Edit
Line 11 Col 12 Insert Indent Tab Fill Unindent
#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 */
```

a=0      b=1      c=2 ✓

d =      ↗ 1 ✓      ↘ 2 ✓  
a++   ||   ++b   ||   --c;  
0      ||   1  
-----  
1 ✓  
**Not checked**

```
TC
File Edit Run Compile Project Options Debug
Edit
Line 11 Col 12 Insert Indent Tab Fill Unindent
#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 */
```



```
TC
File Edit Run Compile Project Options Debug
Edit
Line 11 Col 22 Insert Indent Tab Fill Unindent
#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 */
```

a=0

b=1 ✓

c=2 ✓

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

↖ ↗