Logical operators:

&& - and

|| - or

! – not

&&, || are used to combine two or more expressions in to a single expression.

! operator used for negation. i.e. true becomes false and false become true.

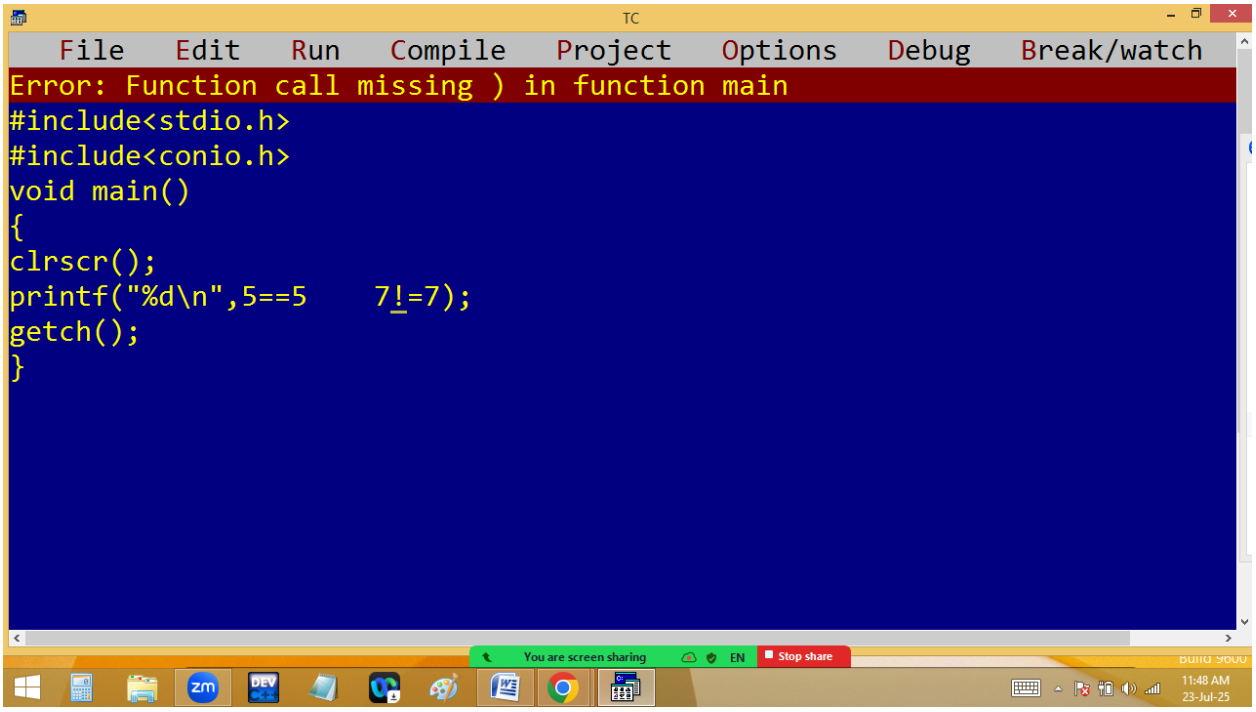
Note: In C & C++ other than 0 anything is 1 i.e. true.

Truth tables:

Operator	Expression1	Expression2	Result
&& - and	1	1	1
	1	0	0
	0	1	0
	0	0	0
|| - or	1	1	1
	1	0	1
	0	1	1
	0	0	0

!true = false

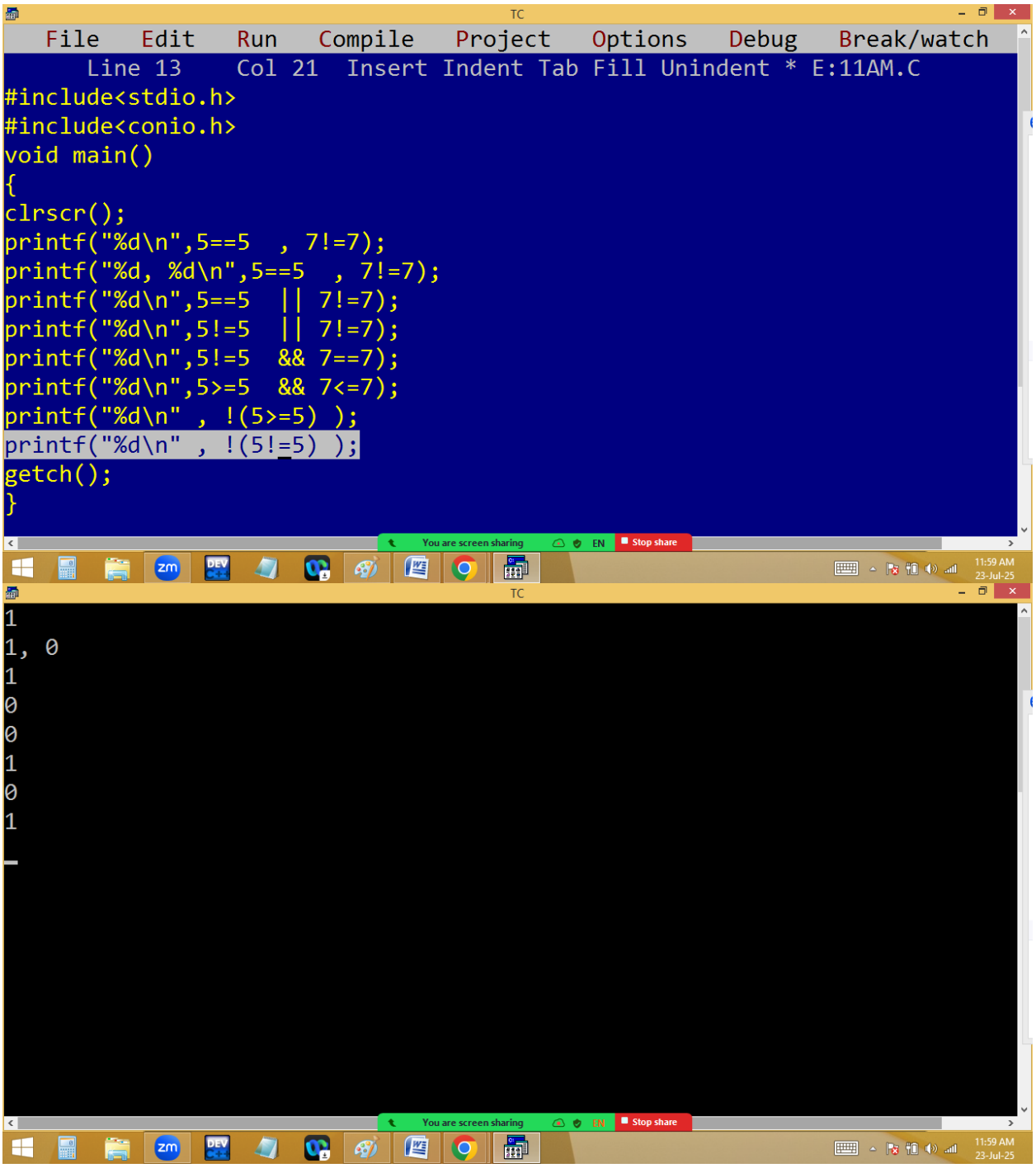
!false = true



Note:

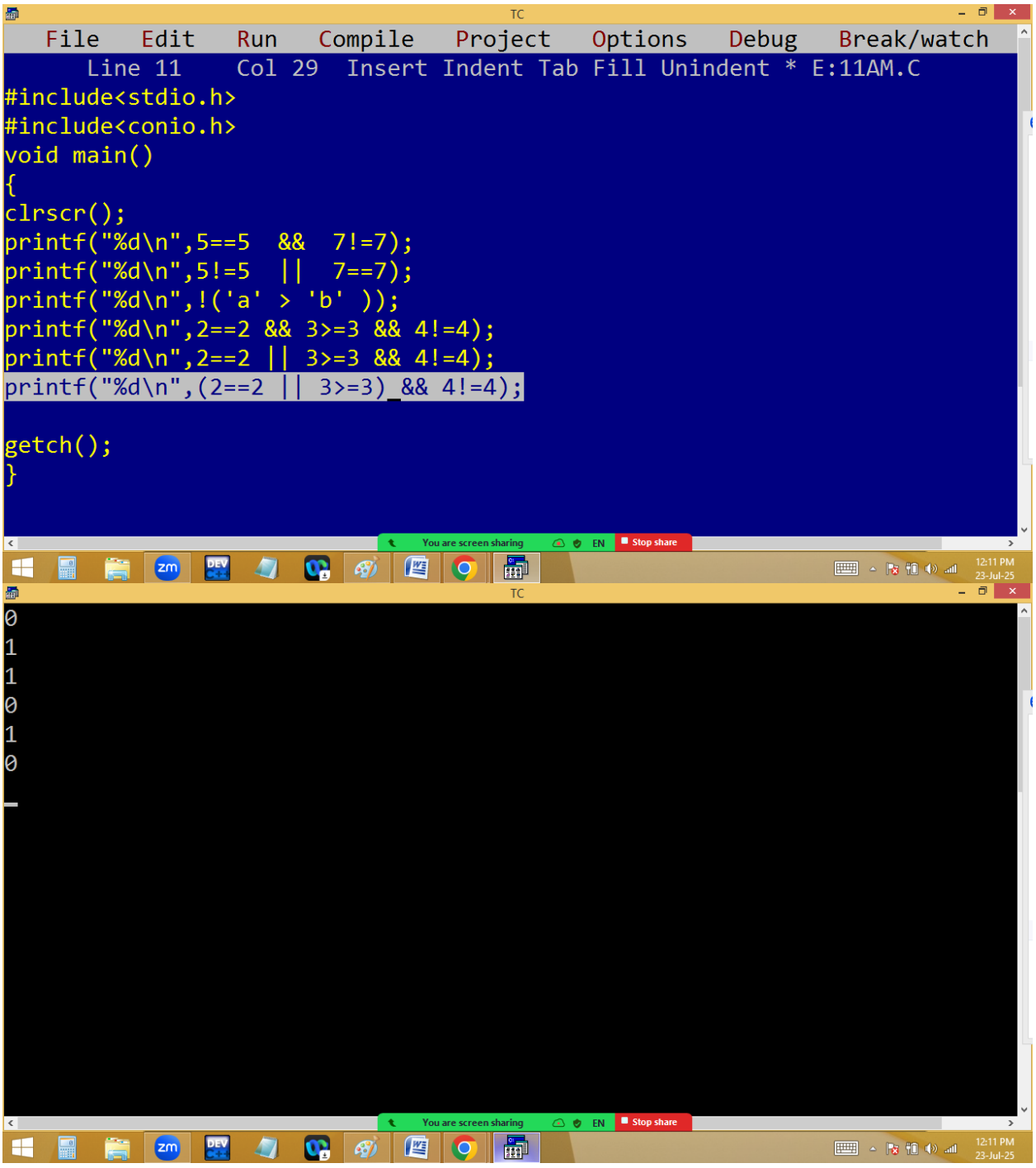
In || operation when left expression is true, then right expression not checked.

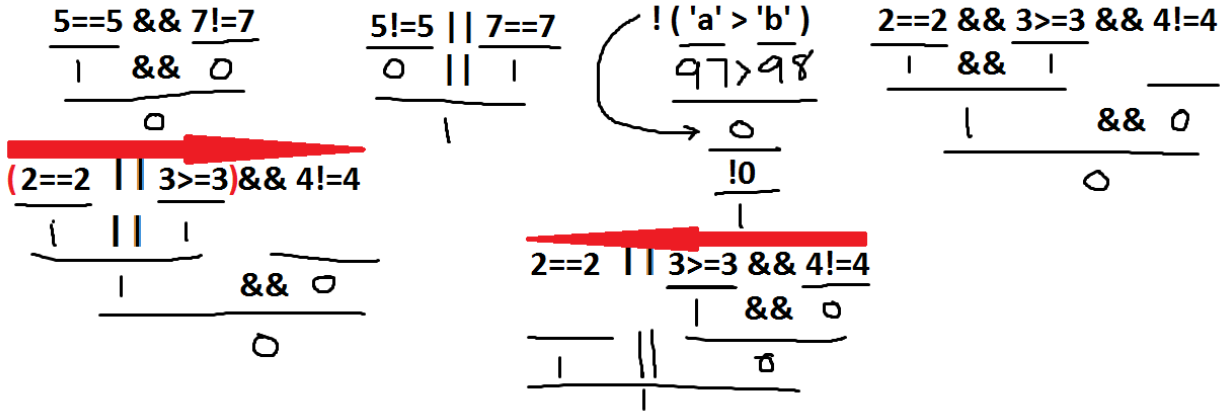
In && operation when left expression is false, then right expression not checked.

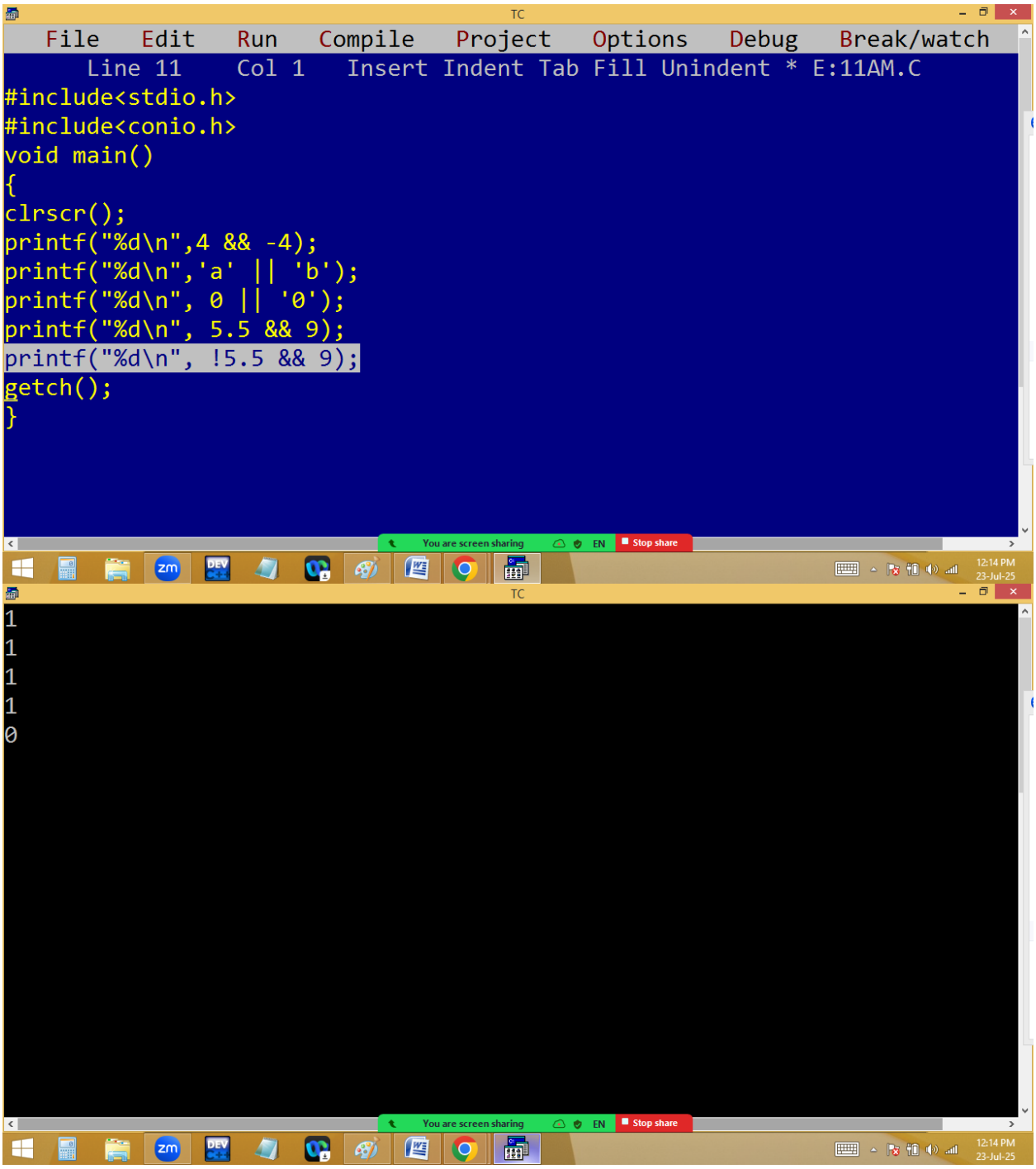


Note:

&& operator got the first priority.


TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 29 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%d\n",5==5 && 7!=7);
printf("%d\n",5!=5 || 7==7);
printf("%d\n",!('a' > 'b'));
printf("%d\n",2==2 && 3>=3 && 4!=4);
printf("%d\n",2==2 || 3>=3 && 4!=4);
printf("%d\n",(2==2 || 3>=3) && 4!=4);
getch();
}
You are screen sharing
EN
Stop share
12:11 PM
23-Jul-25
TC
0
1
1
0
1
0
You are screen sharing
EN
Stop share
12:11 PM
23-Jul-25


5==5 && 7!=7
1 && 0
0
5!=5 || 7==7
0 || 1
1
! ('a' > 'b')
97>98
0
!0
1
2==2 && 3>=3 && 4!=4
1 && 1
1 && 0
0
(2==2 || 3>=3)&& 4!=4
1 || 1
1 && 0
0
2==2 || 3>=3 && 4!=4
1 && 0
1 || 0
1



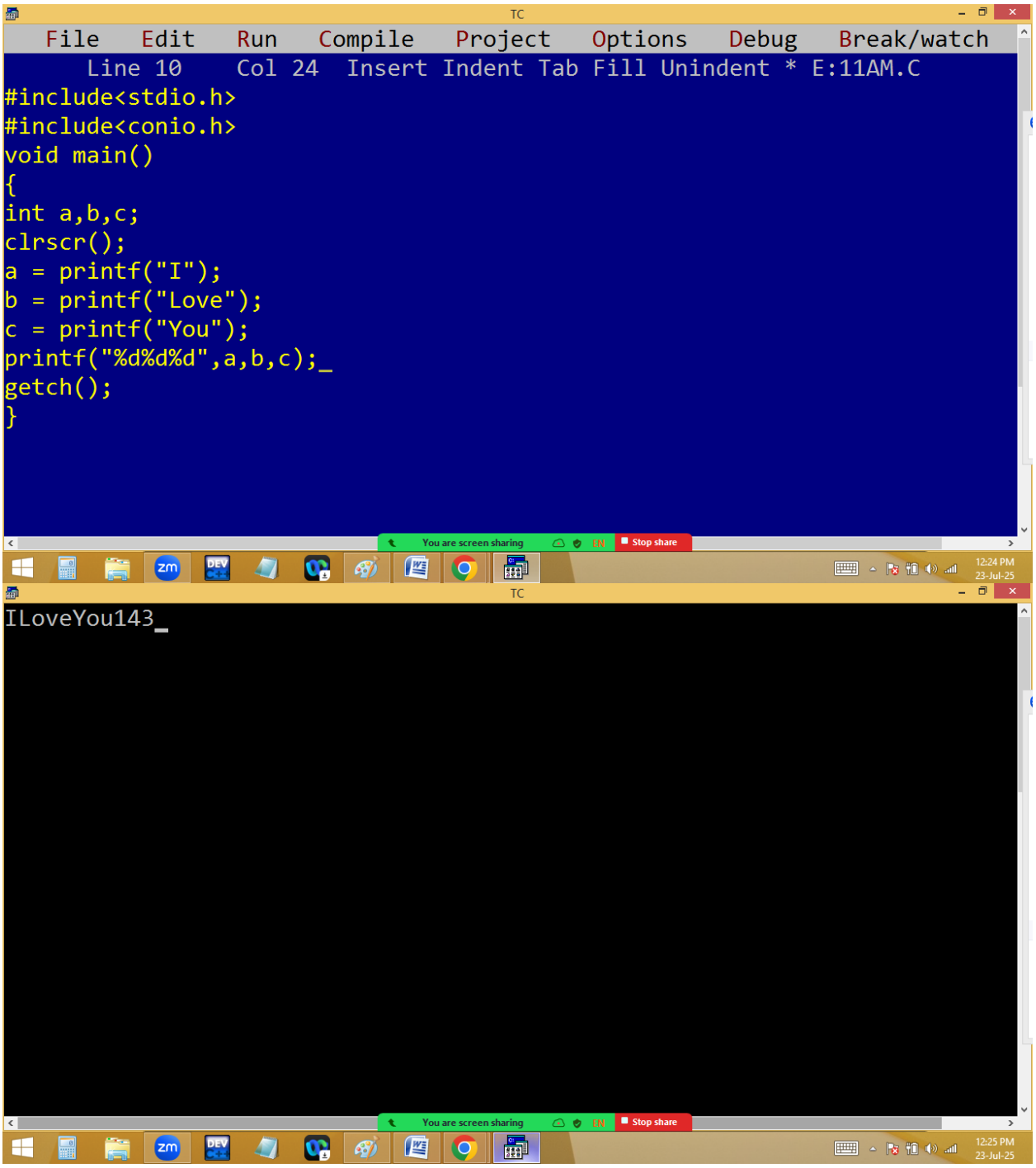
4 && -4
1 && 1
1

'a' || 'b'
97 ✗
1

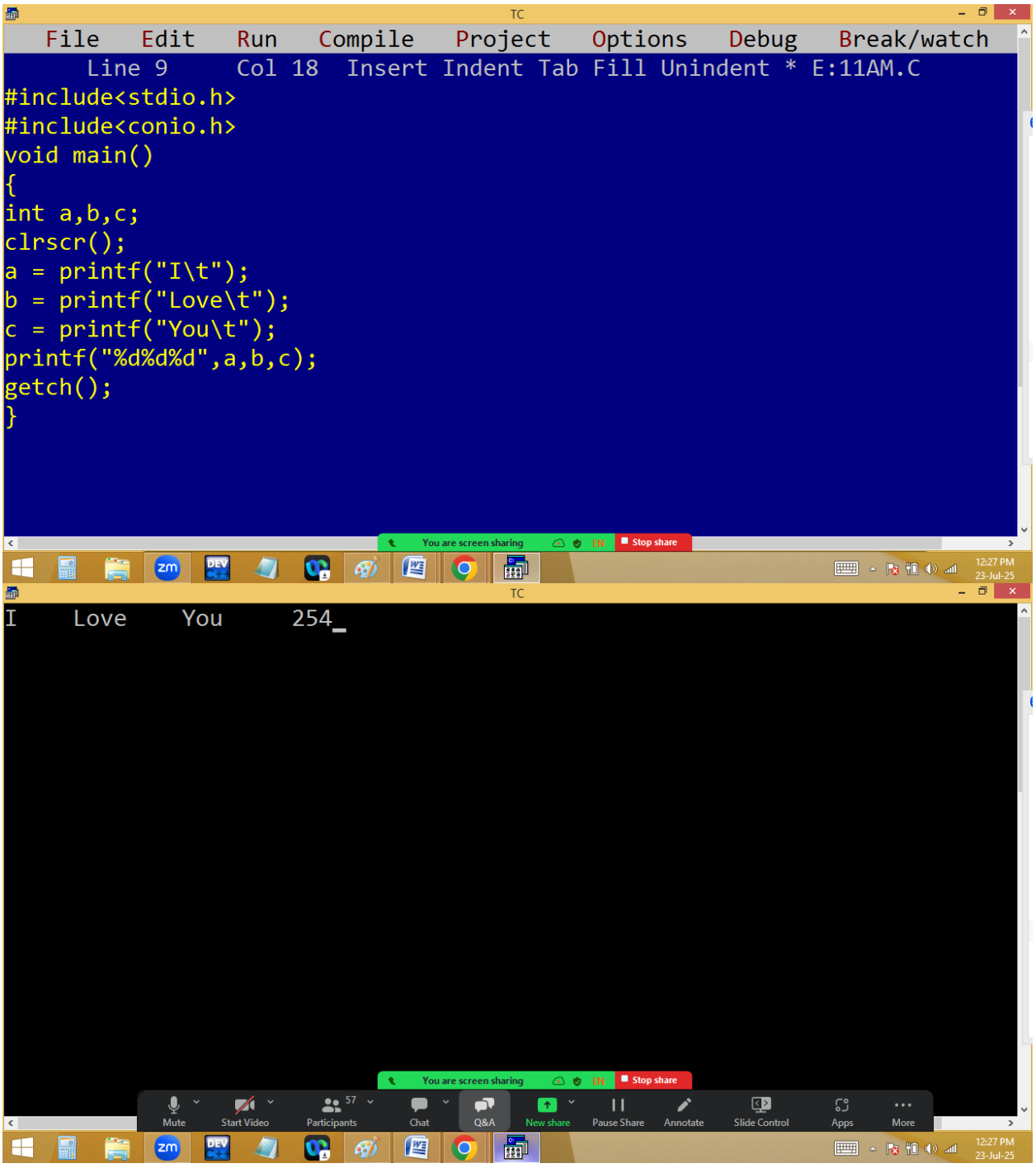
0 || '0'
0 48
0 || 1
1

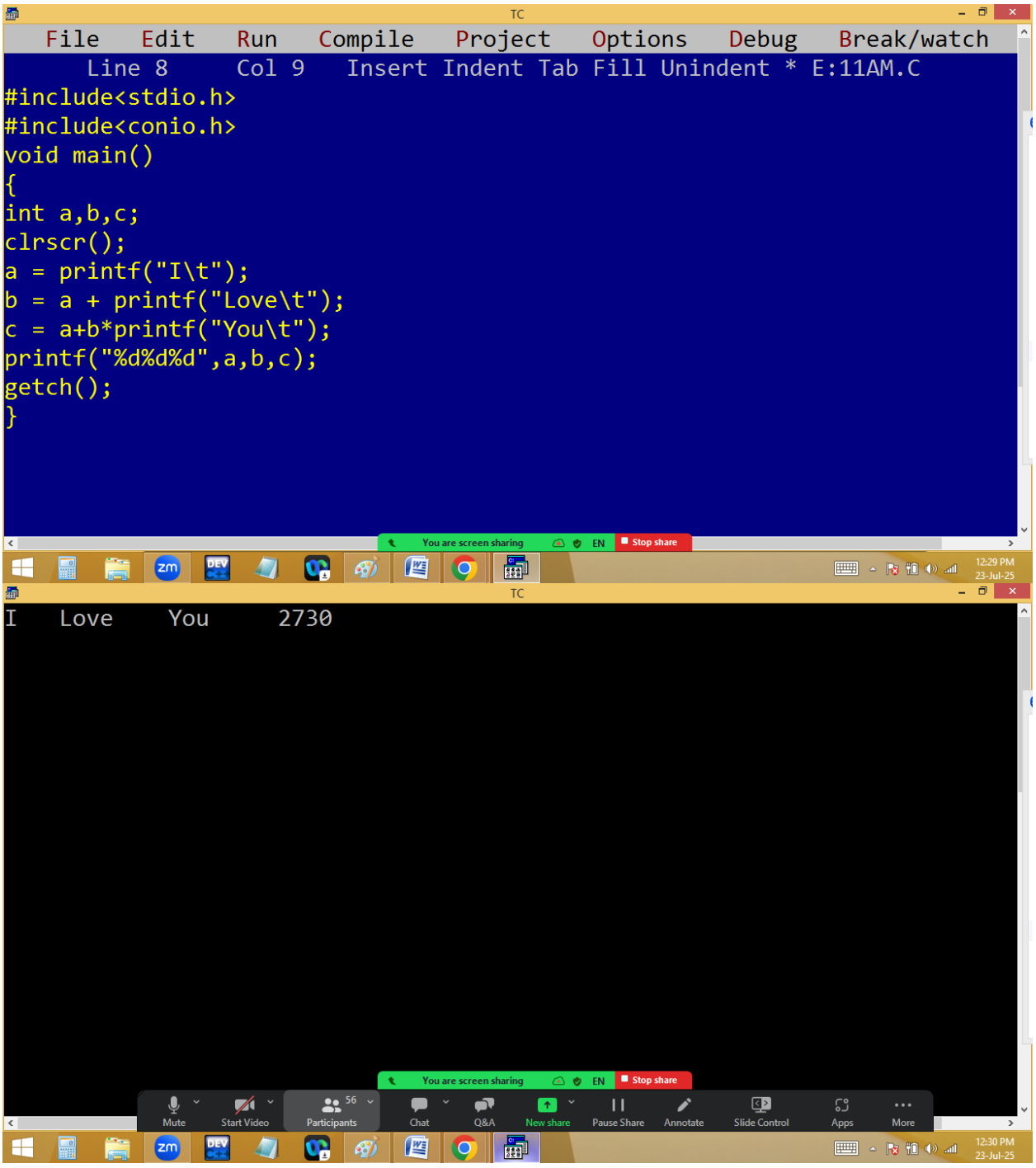
5.5 && 9
1 && 1
1

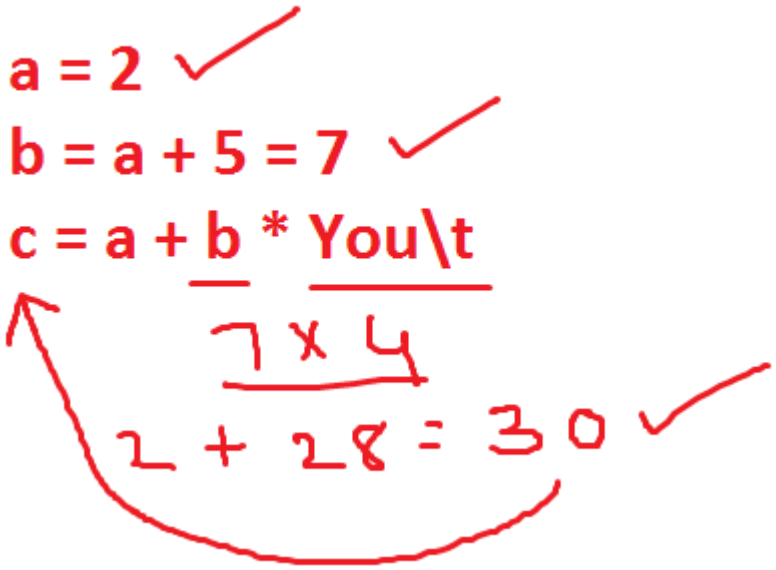
! 5.5 && 9
1 ✗
!1
0

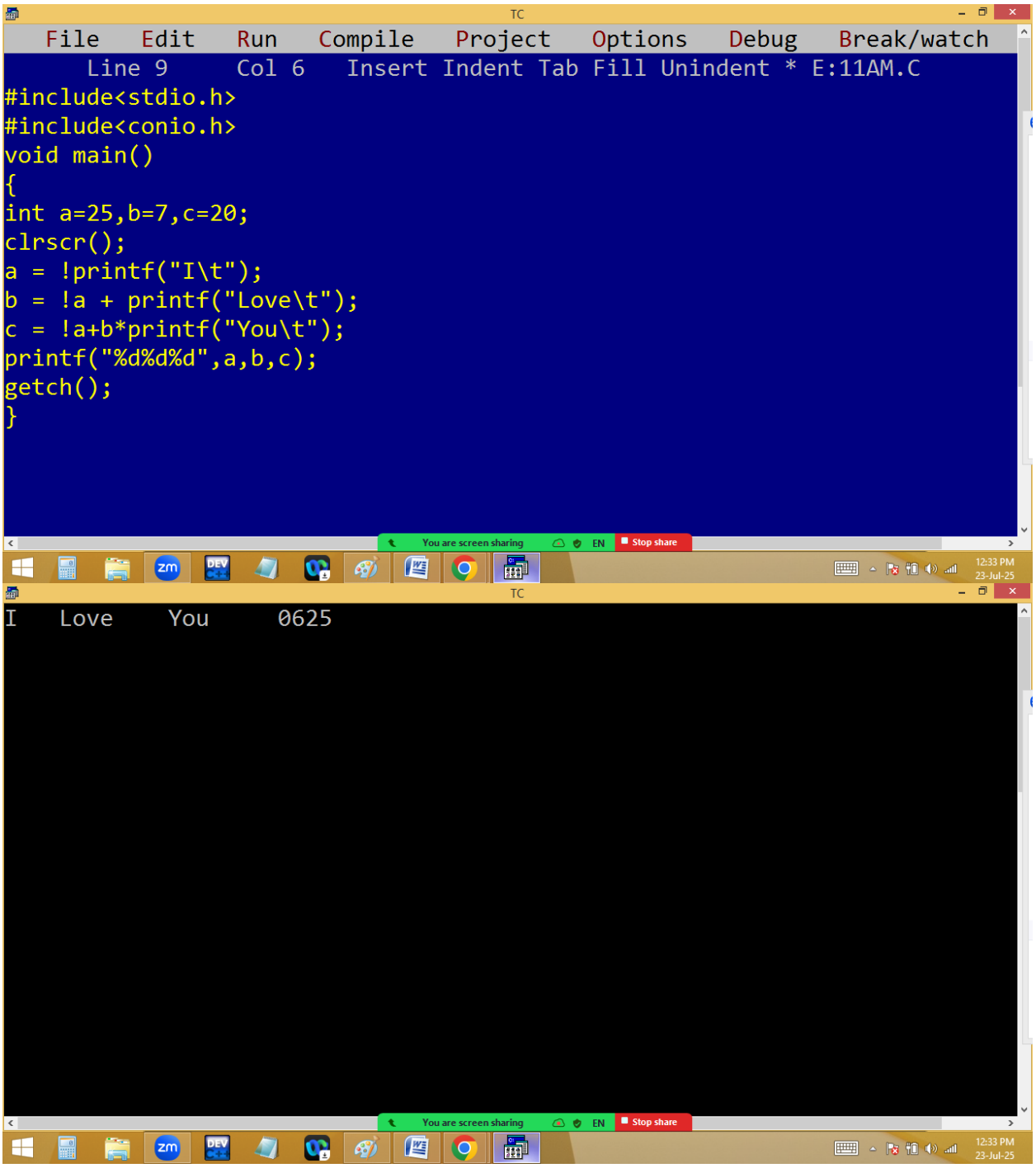


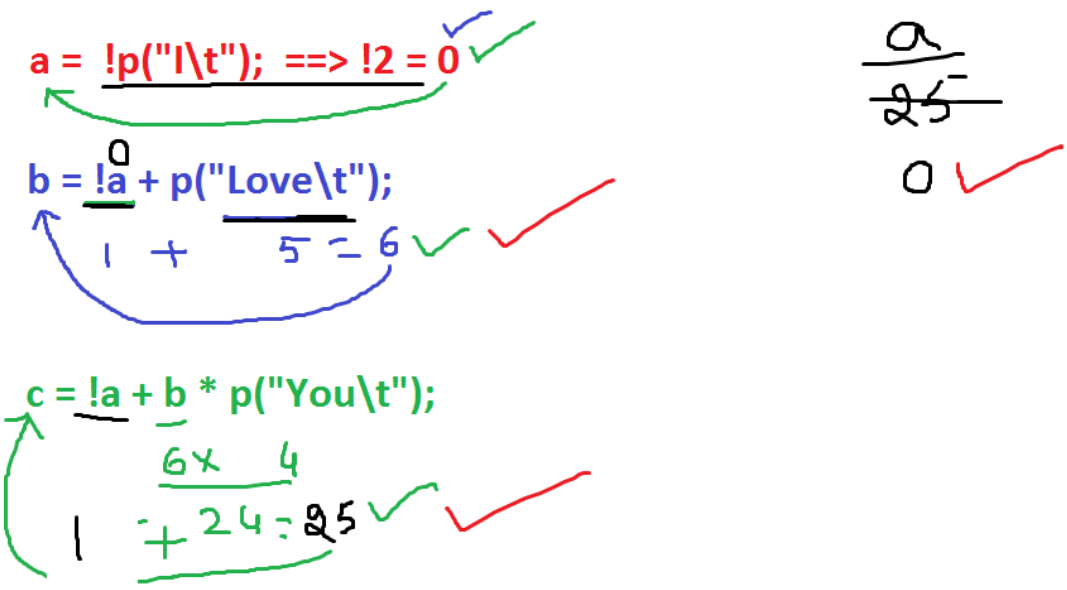
Note: Printf prints the content and return the no of characters.

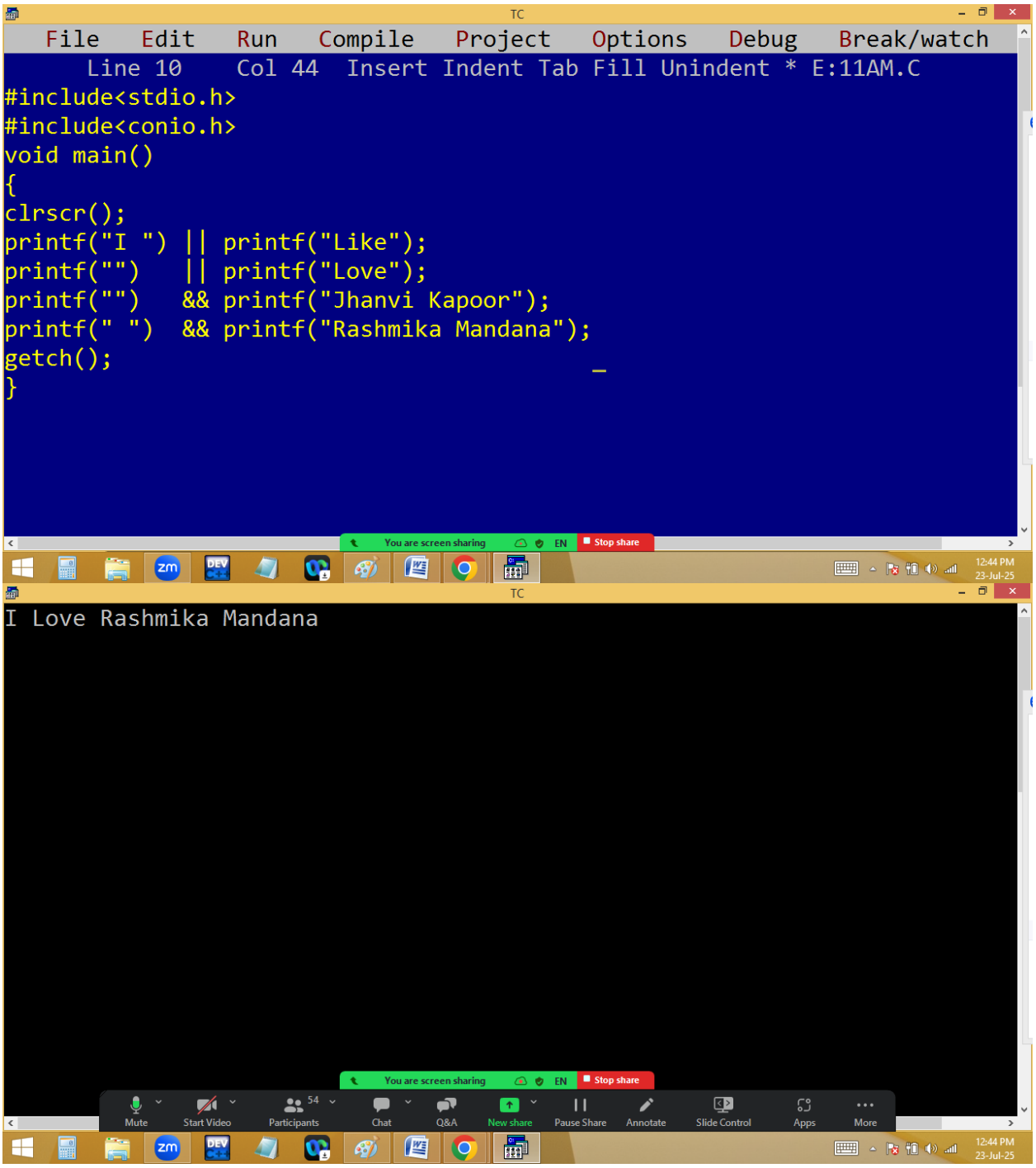

TC
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 18 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c;
clrscr();
a = printf("I\t");
b = printf("Love\t");
c = printf("You\t");
printf("%d%d%d",a,b,c);
getch();
}
You are screen sharing
Stop share
12:27 PM
23-Jul-25
TC
I Love You 254
You are screen sharing
Stop share
Mute
Start Video
Participants
Chat
Q&A
New share
Pause Share
Annotate
Slide Control
Apps
More
12:27 PM
23-Jul-25

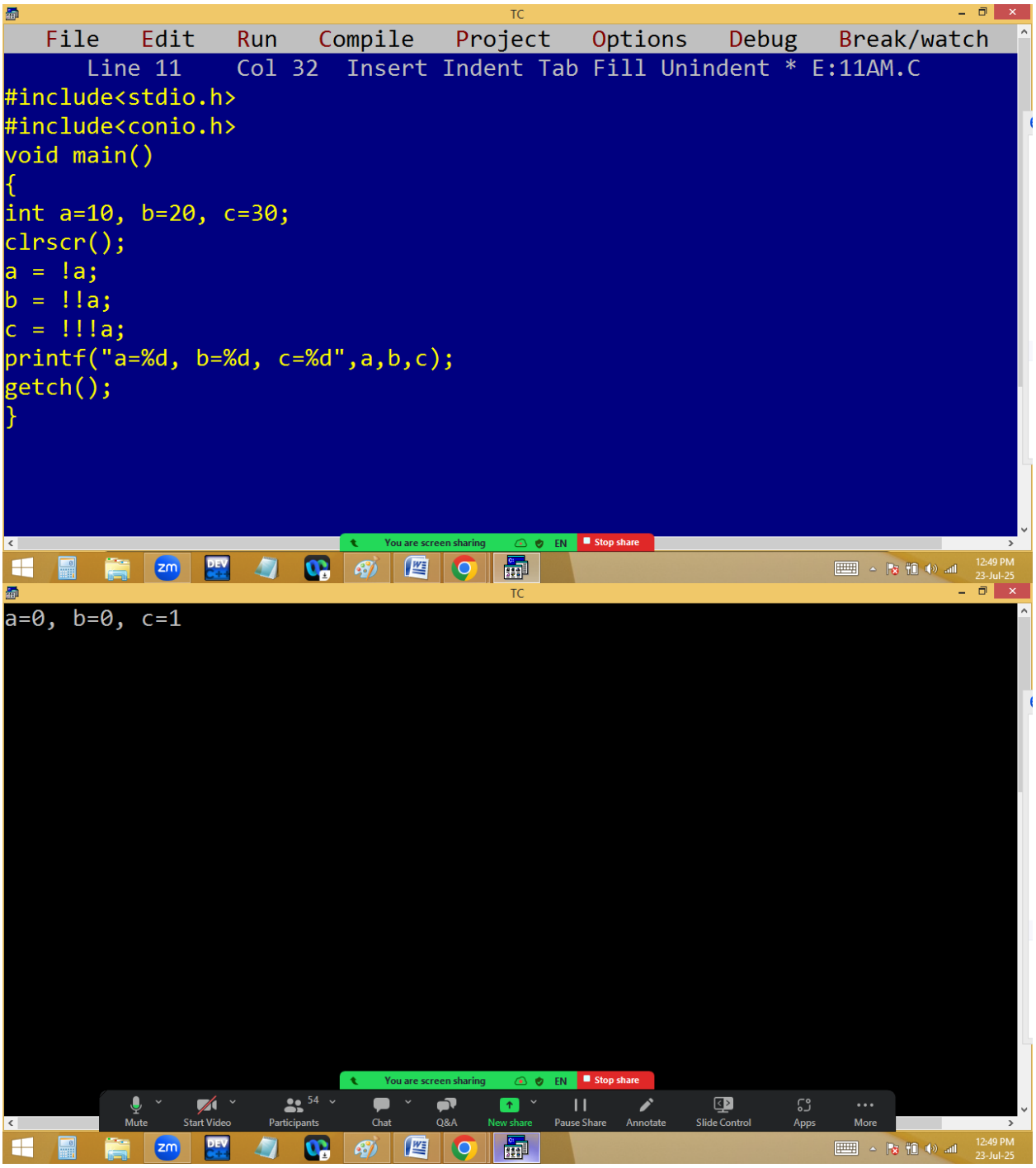

TC
File Edit Run Compile Project Options Debug Break/watch
Line 8 Col 9 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c;
clrscr();
a = printf("I\t");
b = a + printf("Love\t");
c = a+b*printf("You\t");
printf("%d%d%d",a,b,c);
getch();
}
You are screen sharing
EN
Stop share
12:29 PM
23-Jul-25
TC
I Love You 2730
You are screen sharing
EN
Stop share
Mute
Start Video
Participants
56
Chat
Q&A
New share
Pause Share
Annotate
Slide Control
Apps
More
12:30 PM
23-Jul-25

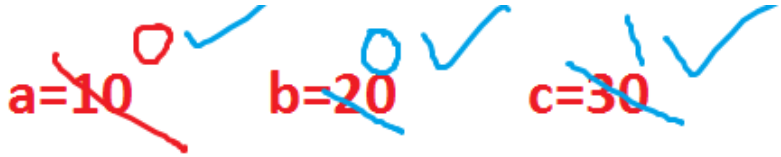

a = 2
b = a + 5 = 7
c = a + b * You\t
7 x 4
2 + 28 = 30


TC
File Edit Run Compile Project Options Debug Break/watch
Line 9 Col 6 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=25,b=7,c=20;
clrscr();
a = !printf("I\t");
b = !a + printf("Love\t");
c = !a+b*printf("You\t");
printf("%d%d%d",a,b,c);
getch();
}
You are screen sharing
EN
Stop share
12:33 PM
23-Jul-25
TC
I Love You 0625
You are screen sharing
EN
Stop share
12:33 PM
23-Jul-25


a = !p("I\t"); ==> !2 = 0
b = !a + p("Love\t");
1 + 5 = 6
c = !a + b * p("You\t");
6 x 4
1 + 24 = 25
a
25
0


TC
File Edit Run Compile Project Options Debug Break/watch
Line 10 Col 44 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("I ") || printf("Like");
printf("") || printf("Love");
printf("") && printf("Jhanvi Kapoor");
printf(" ") && printf("Rashmika Mandana");
getch();
}
You are screen sharing
EN
Stop share
12:44 PM
23-Jul-25
TC
I Love Rashmika Mandana
You are screen sharing
EN
Stop share
Mute
Start Video
Participants
54
Chat
Q&A
New share
Pause Share
Annotate
Slide Control
Apps
More
12:44 PM
23-Jul-25


TC
File Edit Run Compile Project Options Debug Break/watch
Line 11 Col 32 Insert Indent Tab Fill Unindent * E:11AM.C
#include<stdio.h>
#include<conio.h>
void main()
{
int a=10, b=20, c=30;
clrscr();
a = !a;
b = !!a;
c = !!!a;
printf("a=%d, b=%d, c=%d",a,b,c);
getch();
}
You are screen sharing
EN
Stop share
12:49 PM
23-Jul-25
TC
a=0, b=0, c=1
You are screen sharing
EN
Stop share
Mute
Start Video
Participants
54
Chat
Q&A
New share
Pause Share
Annotate
Slide Control
Apps
More
12:49 PM
23-Jul-25



a = !a ==> !10 ==> 0