

Assignment operator [=]: It is used to copy the value on its right side into the variable on its left.

Left side operand should be a variable i.e. left side string variable / expressions / constants not allowed.

a=10;

b=1.2;

c='X';

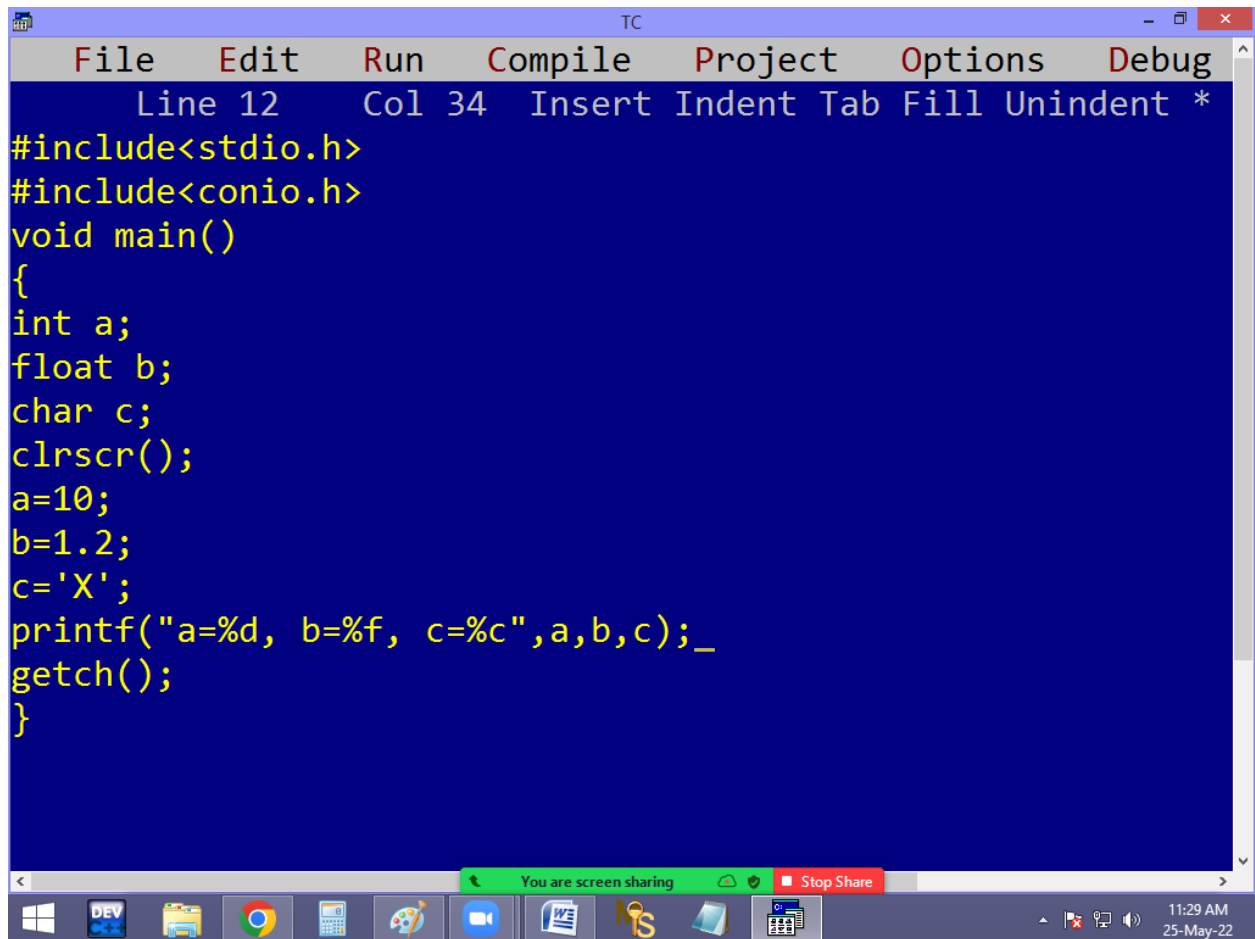
d="abc"; ➔ error

10=20; ➔ error

c=a+b;

a+b=c; ➔ error a+b is expression

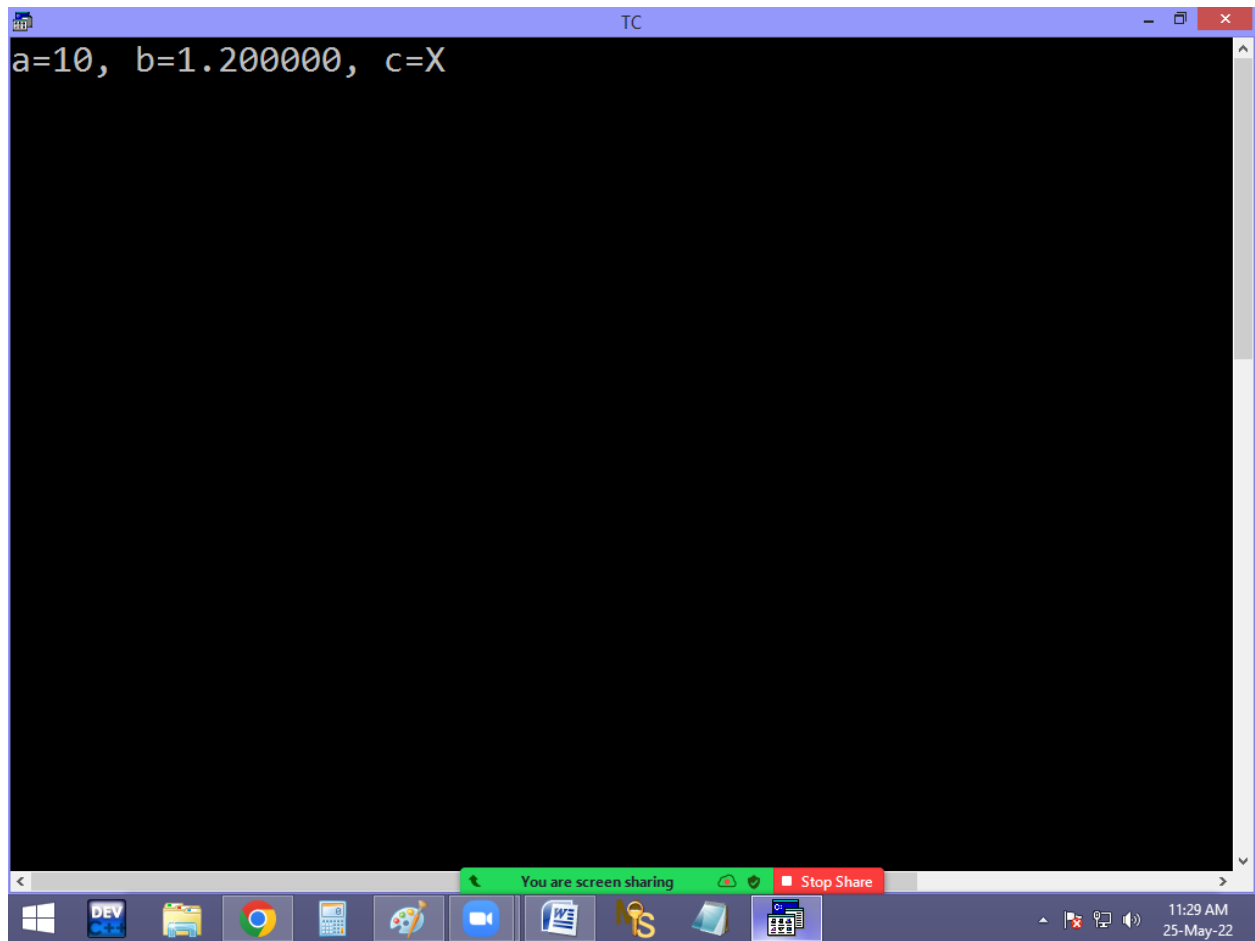
a=b=c=100;

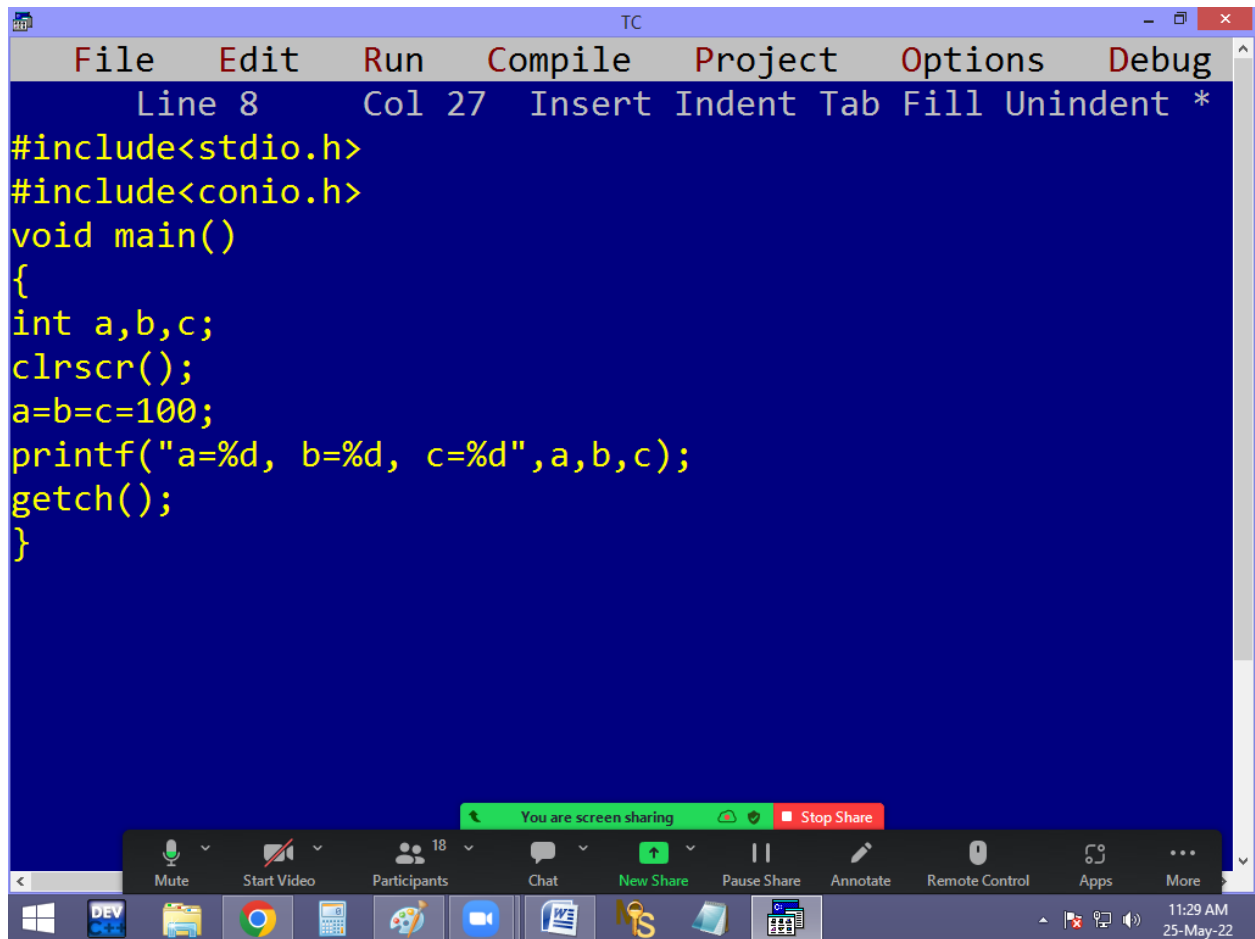


```
TC
File Edit Run Compile Project Options Debug
Line 12 Col 34 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
int a;
float b;
char c;
clrscr();
a=10;
b=1.2;
c='X';
printf("a=%d, b=%f, c=%c",a,b,c);_
getch();
}
```

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11:29 AM
25-May-22





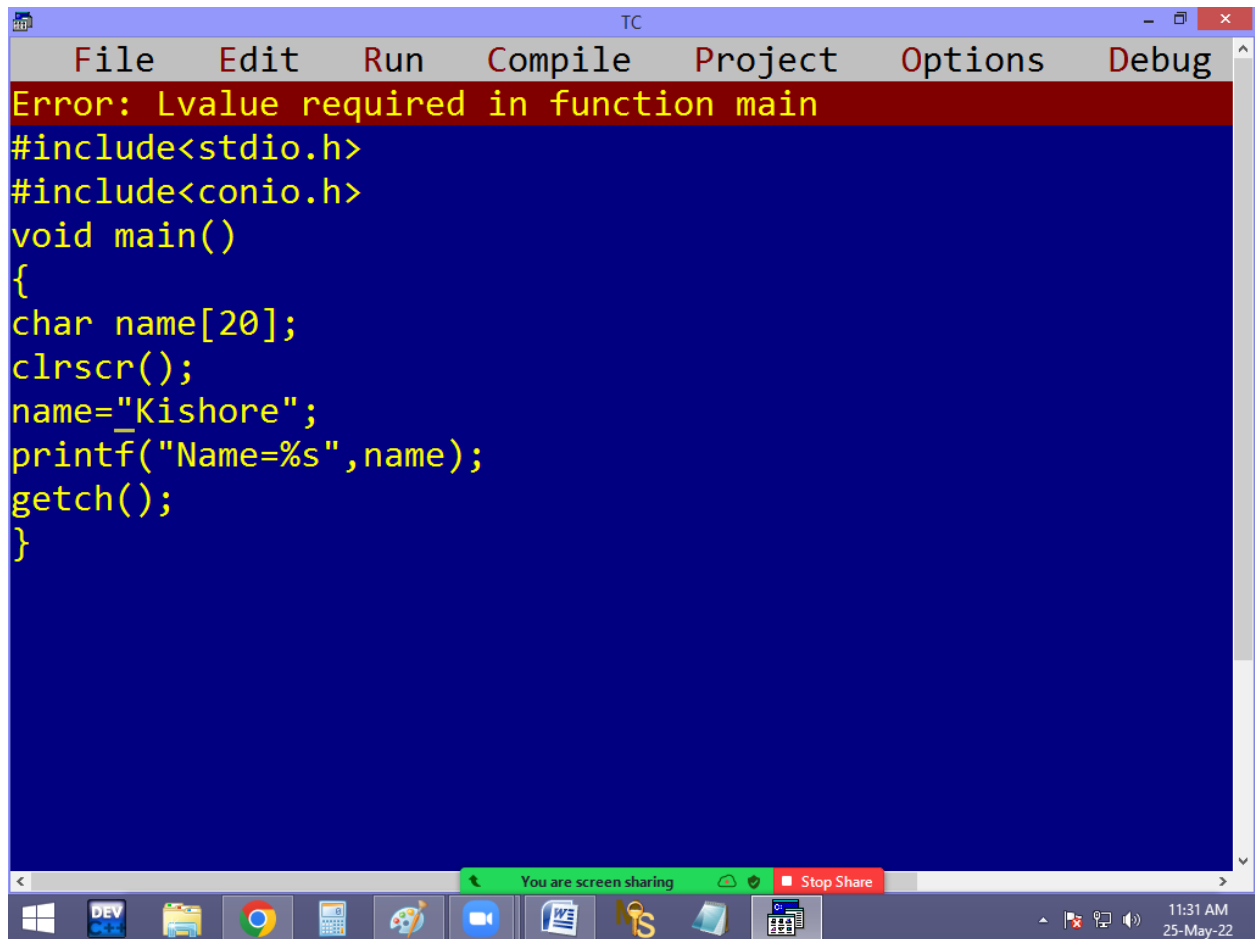
```
TC
File Edit Run Compile Project Options Debug
Line 8 Col 27 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c;
clrscr();
a=b=c=100;
printf("a=%d, b=%d, c=%d",a,b,c);
getch();
}
```

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DEV File Explorer Chrome Calculator Paint Teams Word KS 11:29 AM 25-May-22

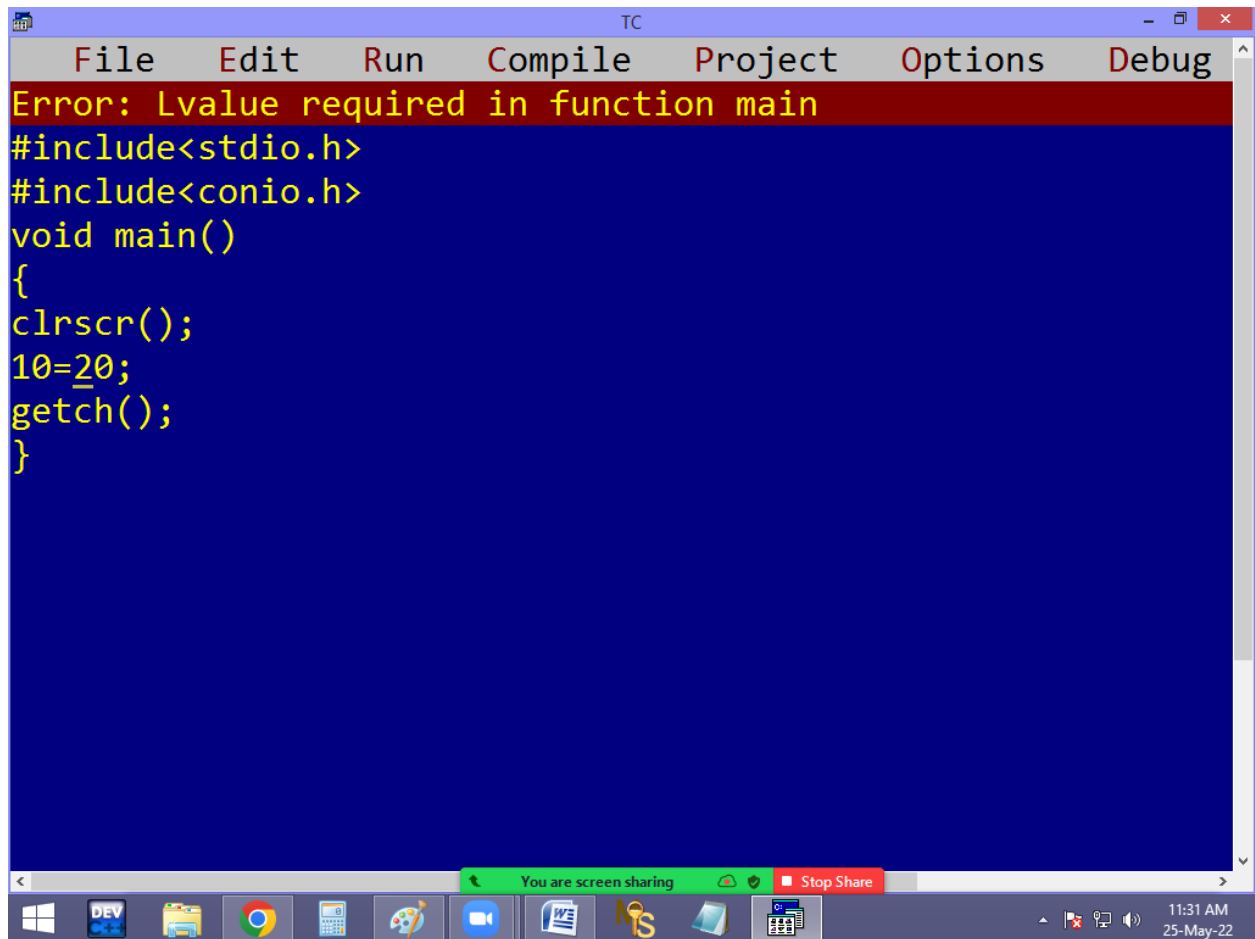




The image shows a screenshot of a Turbo C++ (TC) IDE window. The title bar at the top reads "TC". The menu bar includes "File", "Edit", "Run", "Compile", "Project", "Options", and "Debug". A red error message banner at the top of the code editor states "Error: Lvalue required in function main". The code editor has a dark blue background with yellow text. The code is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
char name[20];
clrscr();
name="Kishore";
printf("Name=%s",name);
getch();
}
```

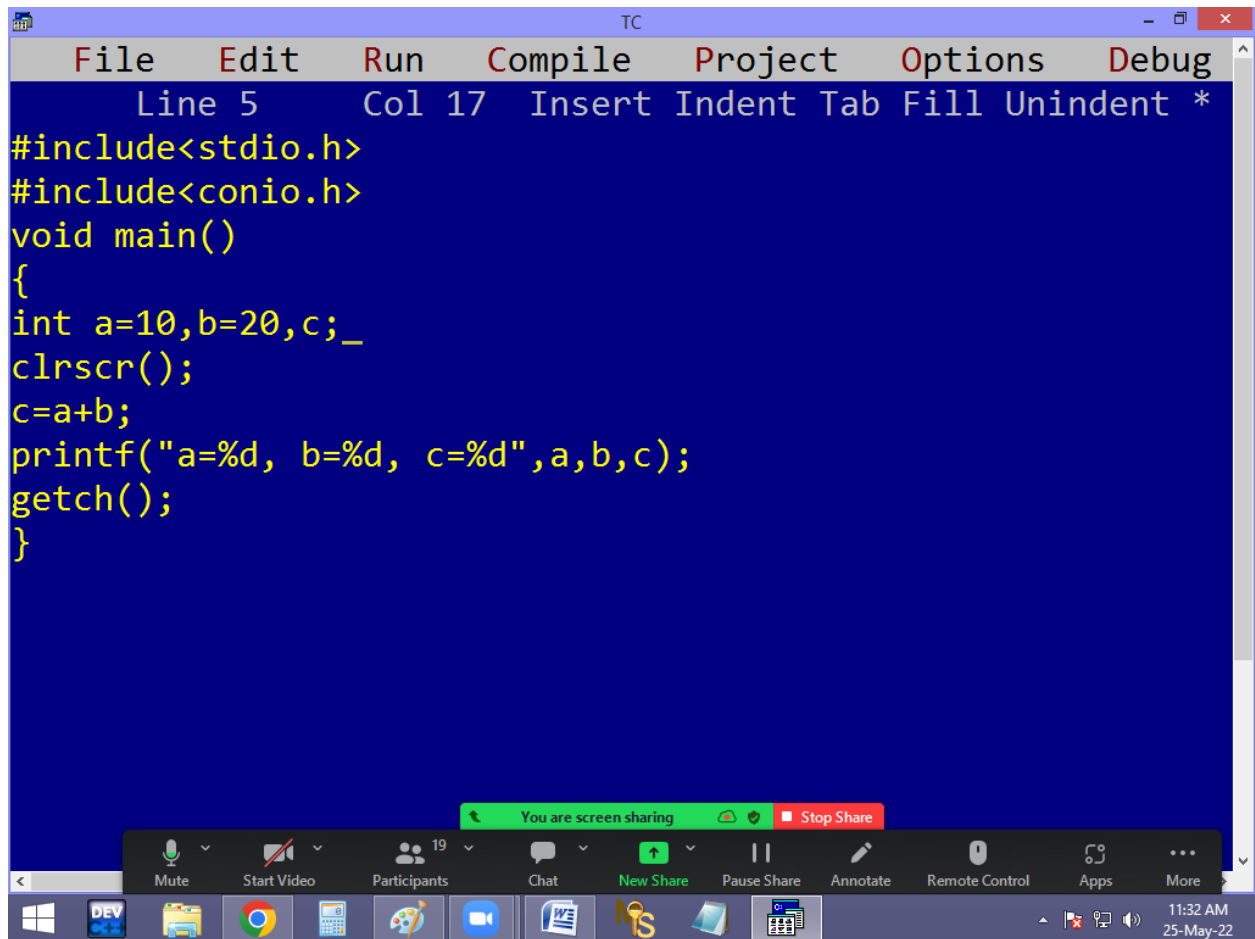
Below the code editor, there is a green status bar that says "You are screen sharing" and a red button labeled "Stop Share". At the bottom of the screen is the Windows taskbar, which includes icons for the Start menu, DEV, File Explorer, Google Chrome, Calculator, Paint, Video Conferencing, Word, Notepad, and a folder icon. The system clock in the bottom right corner shows "11:31 AM" and "25-May-22".



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

```
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
10=20;
getch();
}
```

Below the code editor, there is a green status bar that says "You are screen sharing" and a red button labeled "Stop Share". The Windows taskbar at the bottom shows various application icons, including the Start button, DEV, File Explorer, Google Chrome, Calculator, Paint, Zoom, Word, and a folder icon. The system clock in the bottom right corner displays "11:31 AM" and "25-May-22".



```
TC
File Edit Run Compile Project Options Debug
Line 5 Col 17 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
int a=10,b=20,c;_
clrscr();
c=a+b;
printf("a=%d, b=%d, c=%d",a,b,c);
getch();
}
```

You are screen sharing Stop Share

Mute Start Video Participants 19 Chat New Share Pause Share Annotate Remote Control Apps More

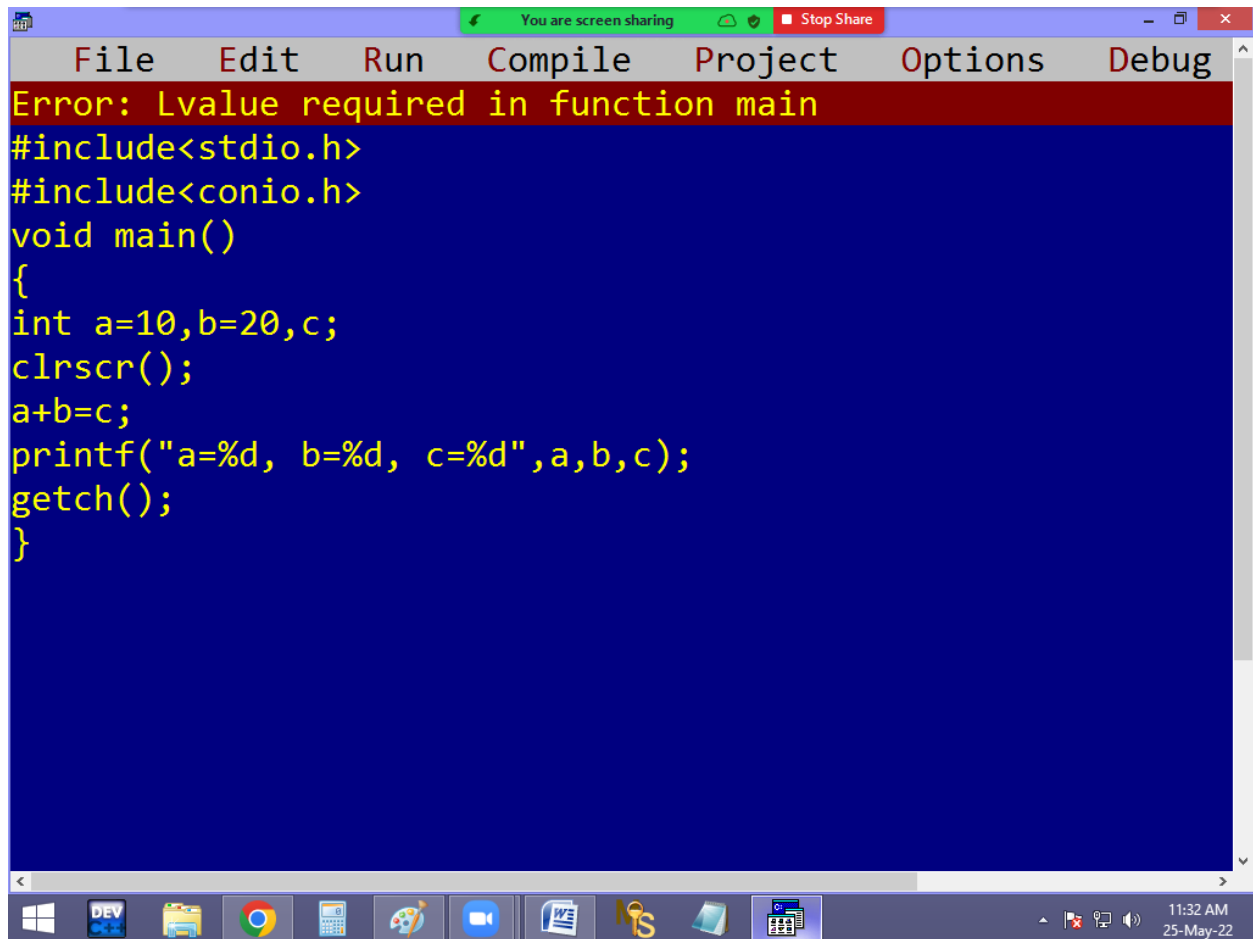
DEV File Explorer Chrome Calculator Paint Teams Word KS 11:32 AM 25-May-22

a=10, b=20, c=30

You are screen sharing Stop Share

Mute Start Video Participants Chat New Share Pause Share Annotate Remote Control Apps More

11:32 AM 25-May-22

A screenshot of a C++ IDE window. The title bar shows 'You are screen sharing' and 'Stop Share'. 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 has a dark blue background with yellow text. The code is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a=10,b=20,c;
clrscr();
a+b=c;
printf("a=%d, b=%d, c=%d",a,b,c);
getch();
}
```

The Windows taskbar is visible at the bottom with various application icons and a system clock showing 11:32 AM on 25-May-22.

Arithmetic operators [+, -, *, %, /]: They are used to perform mathematical calculations.

Eg: $a+b$, $a-b$, $a*b$,...

% - modulus [Remainder]:

$$5 \% 2 = 1$$

$$\begin{array}{r}
 2 \overline{) 5} \quad (2 \leftarrow / \quad \text{Quotient} \\
 \underline{4} \\
 1 \quad \text{Remainder}
 \end{array}$$

$\% \rightarrow 1$

$$2 \% 5 = 2$$

Note: if the divisor is bigger than dividend then dividend is the answer.

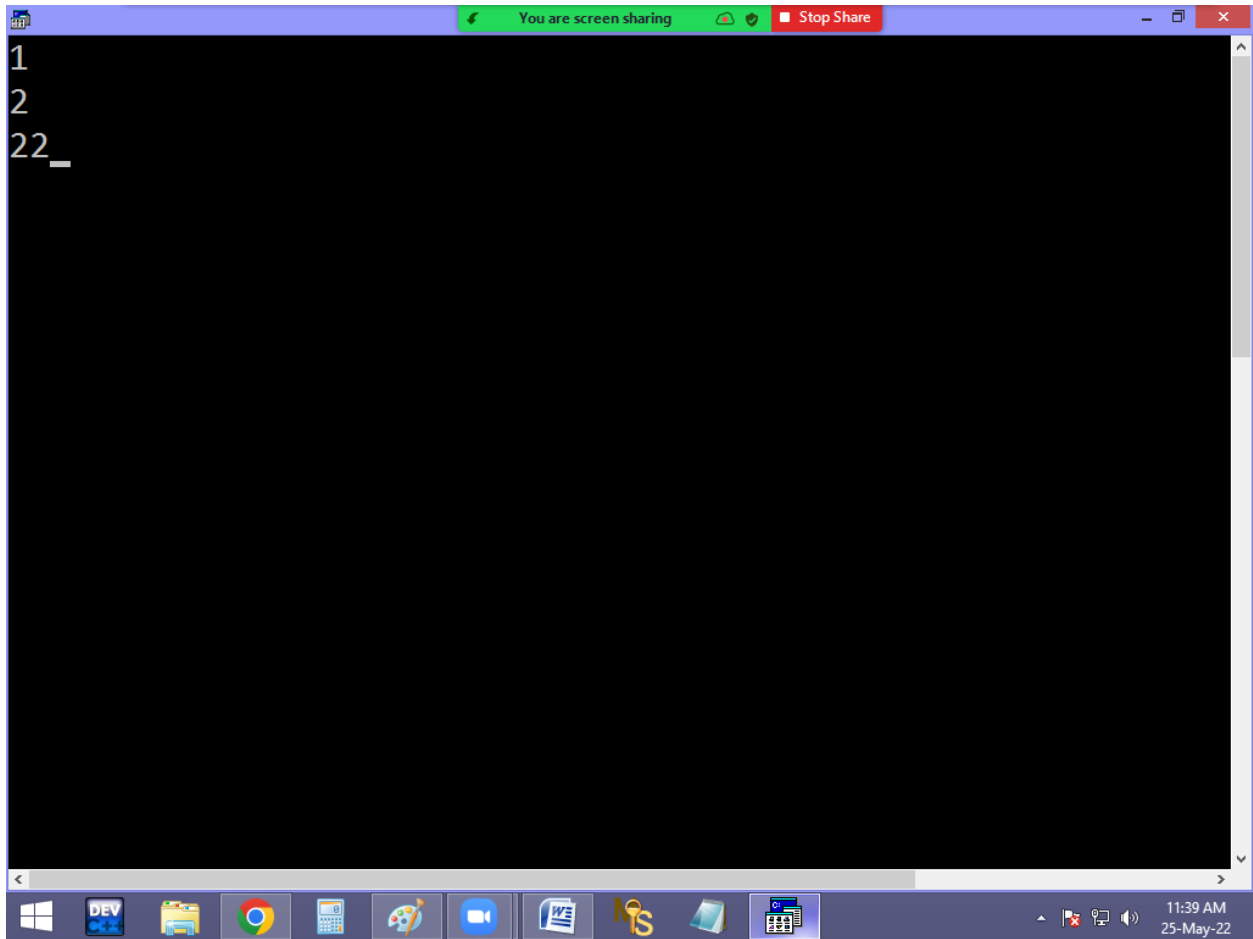
You are screen sharing Stop Share

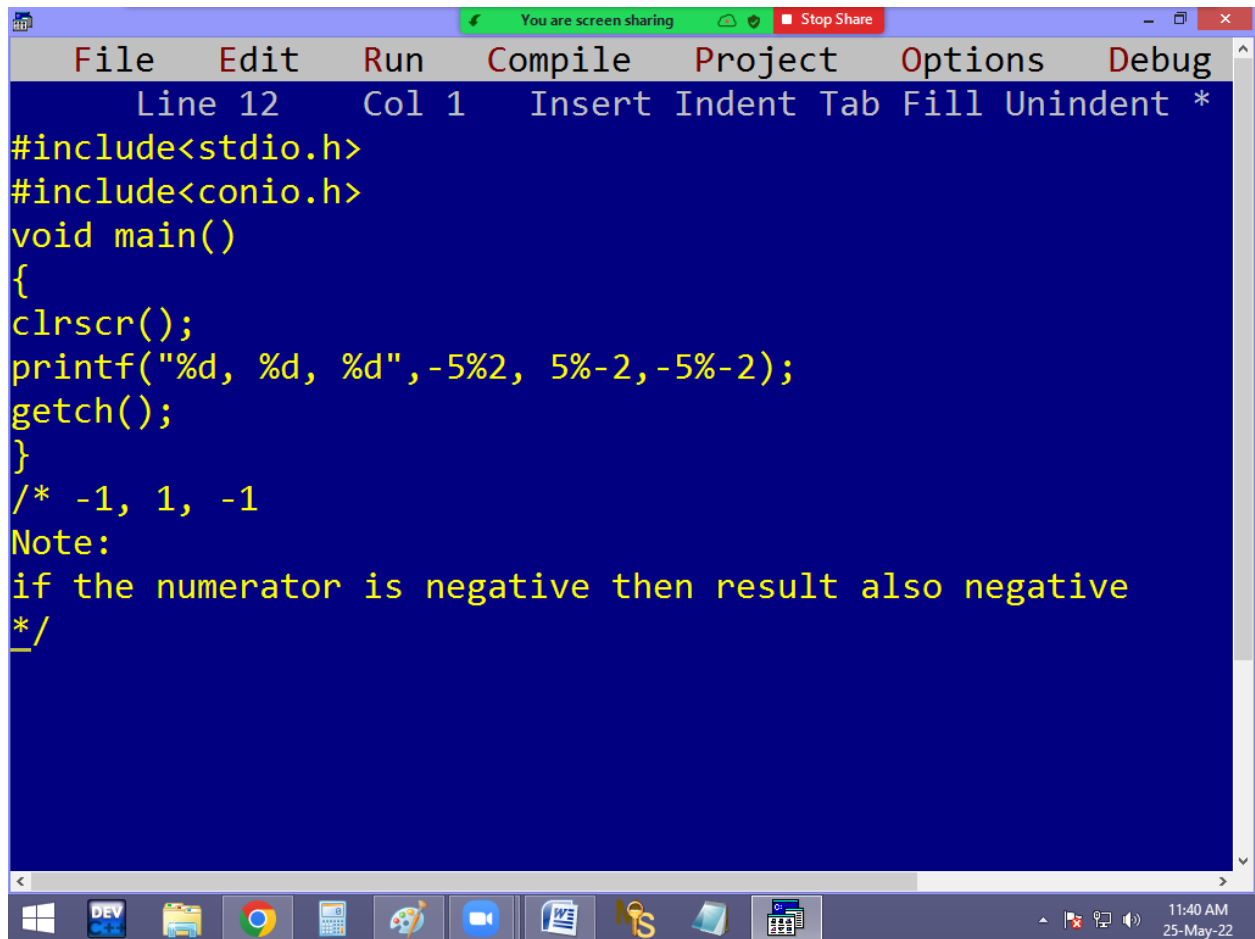
File Edit Run Compile Project Options Debug

Line 8 Col 20 Insert Indent Tab Fill Unindent *

```
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%d\n",5%2);
printf("%d\n",2%5);
printf("%d",22%55);
getch();
}
```

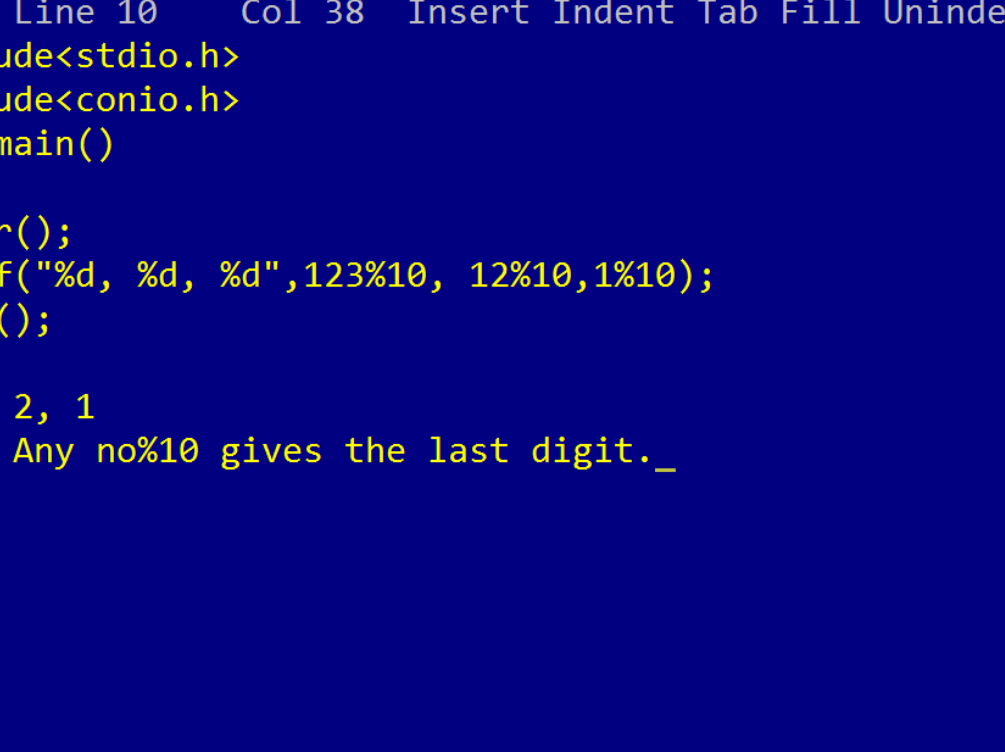
11:39 AM 25-May-22





```
File Edit Run Compile Project Options Debug
Line 12 Col 1 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%d, %d, %d",-5%2, 5%-2,-5%-2);
getch();
}
/* -1, 1, -1
Note:
if the numerator is negative then result also negative
*/
```

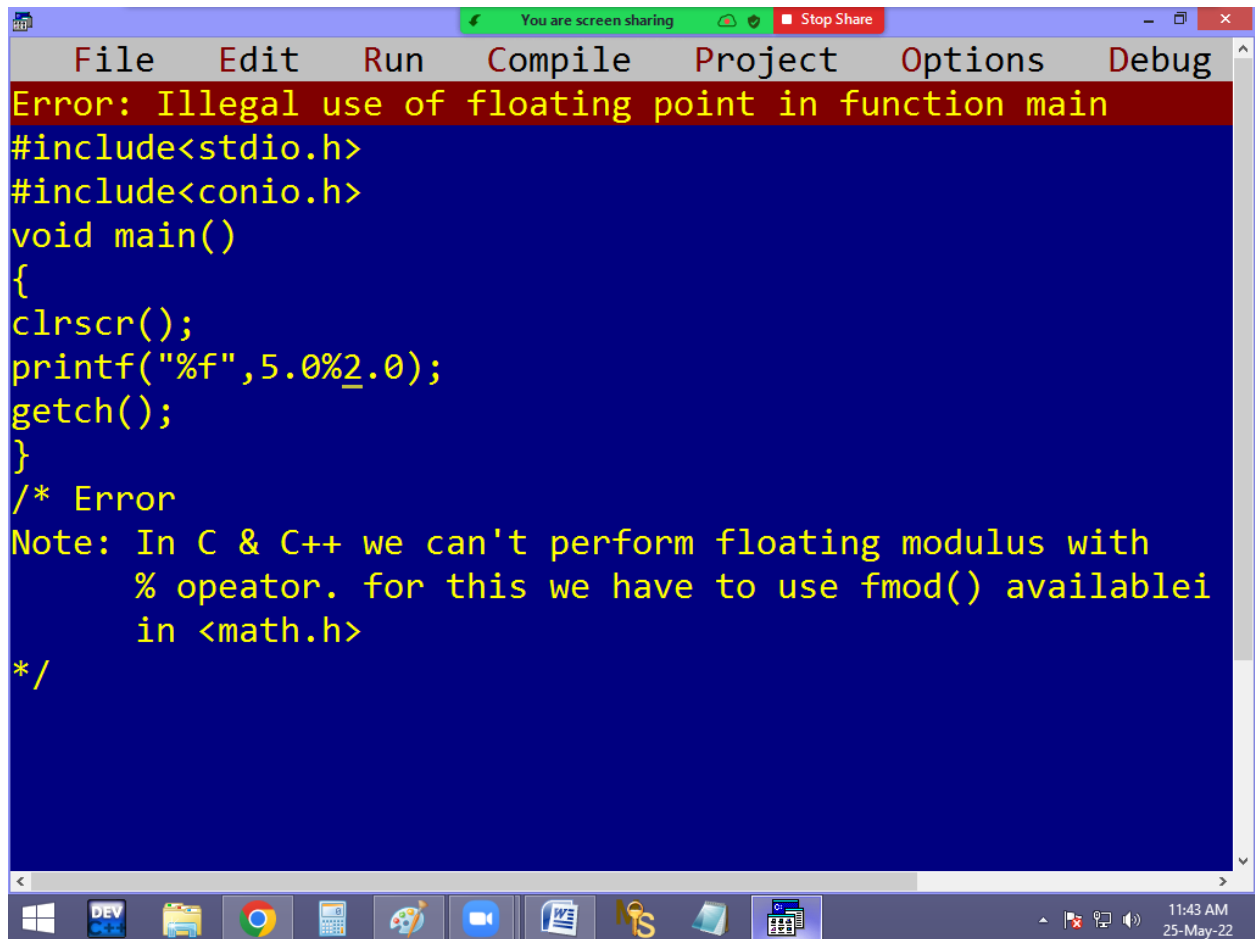
11:40 AM
25-May-22



The screenshot shows a Windows IDE with a blue background. The menu bar includes File, Edit, Run, Compile, Project, Options, and Debug. The status bar at the top indicates "You are screen sharing" and "Stop Share". The code editor displays the following C program:

```
Line 10 Col 38 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%d, %d, %d",123%10, 12%10,1%10);
getch();
}
/* 3, 2, 1
Note: Any no%10 gives the last digit._
*/
```

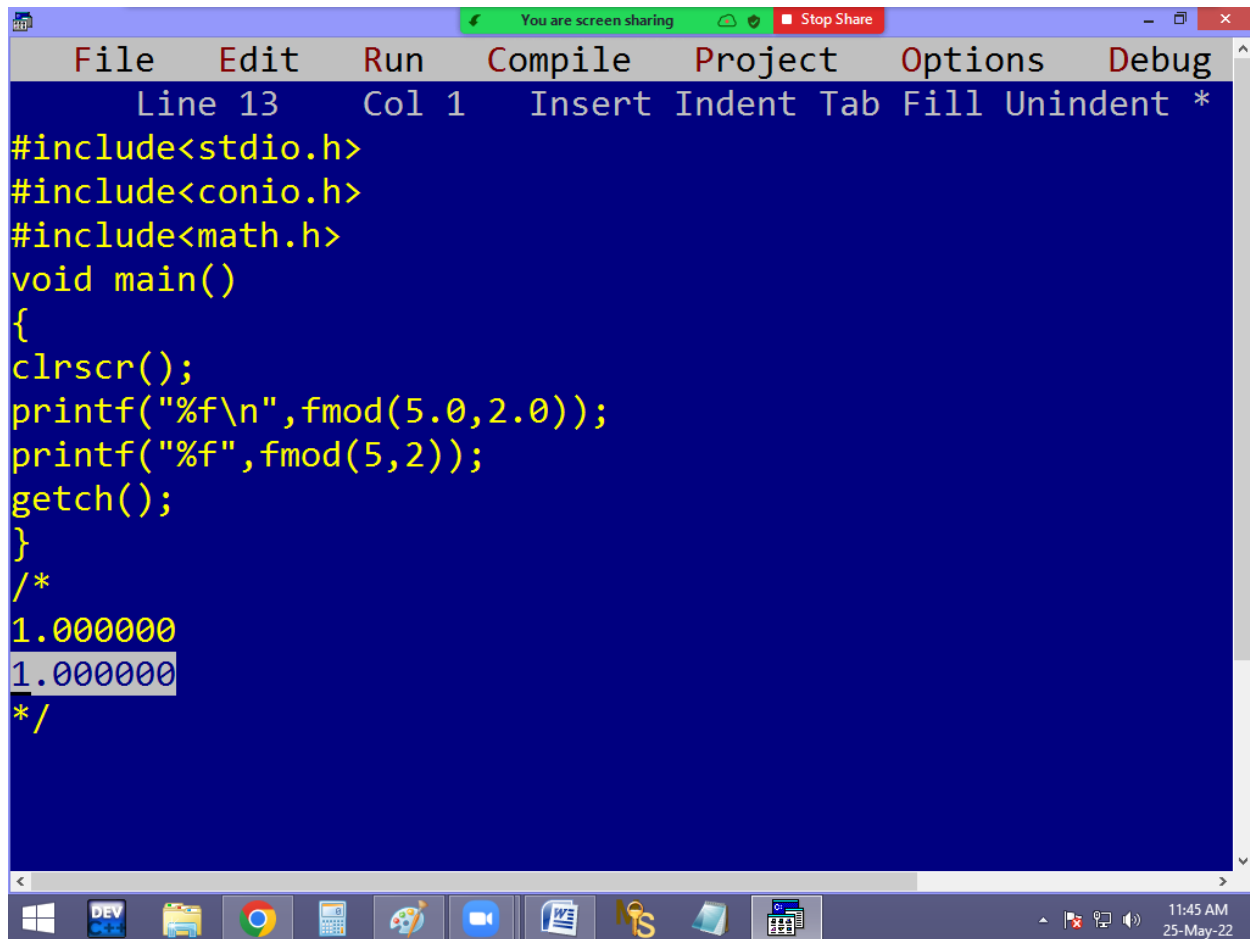
The taskbar at the bottom shows various application icons, including Windows, DEV, File Explorer, Chrome, Calculator, Paint, Video Conferencing, Word, and a folder icon. The system clock in the bottom right corner shows 11:41 AM on 25-May-22.



The image shows a screenshot of a C++ IDE window. At the top, there is a status bar that says "You are screen sharing" and a "Stop Share" button. Below that is a menu bar with options: File, Edit, Run, Compile, Project, Options, and Debug. The main area of the IDE has a dark blue background with yellow text. A red error message banner at the top of the code area reads "Error: Illegal use of floating point in function main". The code displayed is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%f",5.0%2.0);
getch();
}
/* Error
Note: In C & C++ we can't perform floating modulus with
      % operator. for this we have to use fmod() available in <math.h>
*/
```

At the bottom of the window is a Windows taskbar with various application icons, including DEV, File Explorer, Google Chrome, Calculator, Paint, Video Conferencing, Word, and a folder icon. The system clock in the bottom right corner shows "11:43 AM" and "25-May-22".

A screenshot of a C program running in a terminal window. The program includes headers for stdio, conio, and math, and defines a main function. It uses clrscr() to clear the screen, then prints the result of fmod(5.0, 2.0) using %f, followed by fmod(5, 2) also using %f. After a getch() call, it prints a comment block containing the output: 1.000000, 1.000000, and */. The output is displayed in yellow text on a blue background. The terminal window has a menu bar with File, Edit, Run, Compile, Project, Options, and Debug. A status bar at the bottom shows the Windows taskbar with various icons and the system clock indicating 11:45 AM on 25-May-22.

```
File Edit Run Compile Project Options Debug
Line 13 Col 1 Insert Indent Tab Fill Unindent *
#include<stdio.h>
#include<conio.h>
#include<math.h>
void main()
{
clrscr();
printf("%f\n",fmod(5.0,2.0));
printf("%f",fmod(5,2));
getch();
}
/*
1.000000
1.000000
*/
```

/ - division [Quotient]:

$5/2=2$ [int/int=int]

$5.0/2=2.500000$

Note: Only int/int=int remaining all combinations floating result.

(float) $5/2=2.500000$ [explicit type casting]

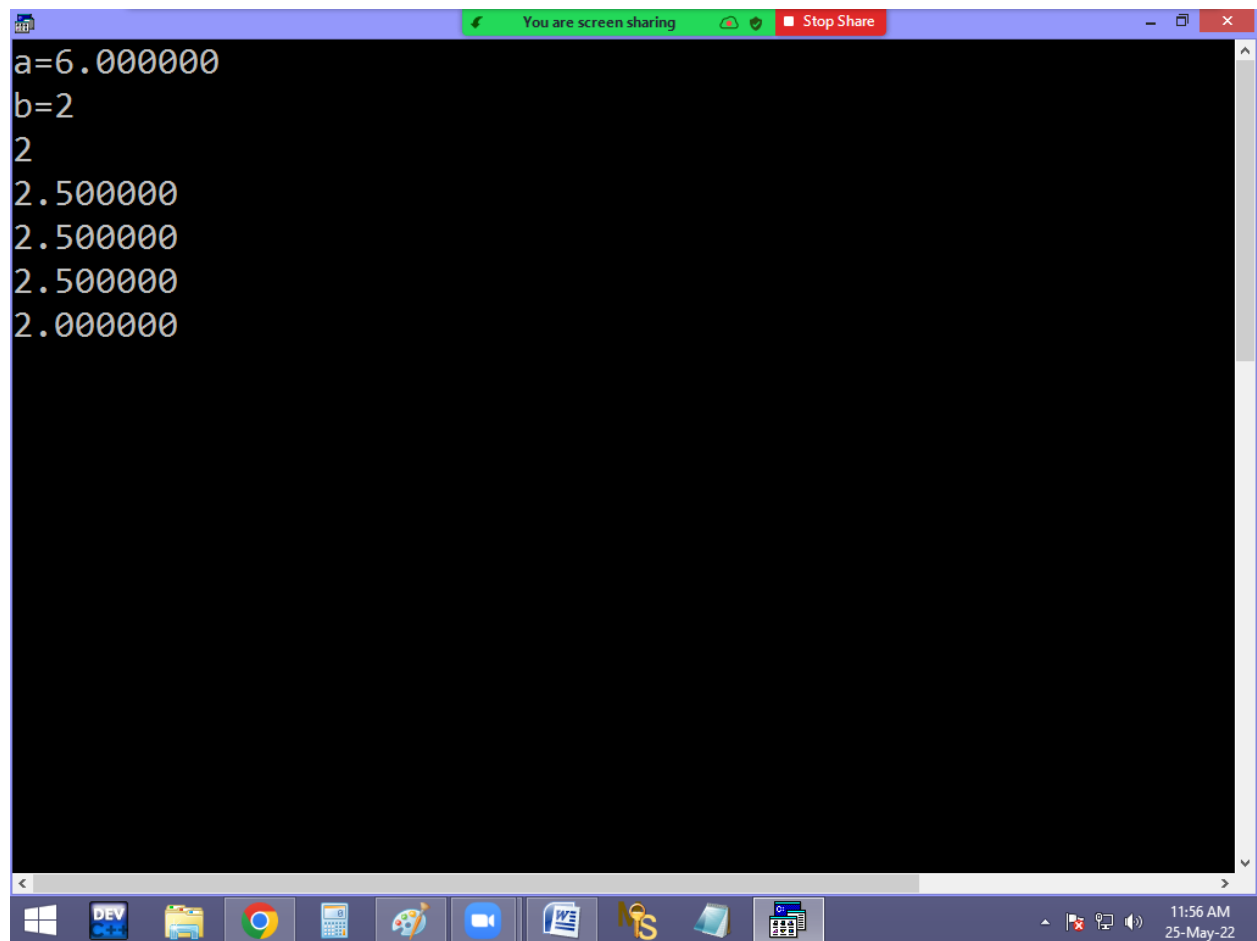
Float $a=6;\rightarrow 6.000000$ [implicit type casting]

Int a=2.3; ➔ 2 [implicit type casting]

5/(float)2 ➔ 2.500000

(float)(5/2)=2.000000

```
#include<stdio.h>
#include<conio.h>
void main()
{
float a=6;
int b=2.3;
clrscr();
printf("a=%f\n",a);
printf("b=%d\n",b);
printf("%d\n",5/2);
printf("%f\n",5.0/2);
printf("%f\n",5/2.0);
printf("%f\n",(float)5/2);
printf("%f\n",(float)(5/2));
getch();
}
```



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File Edit Run Compile Project Options Debug

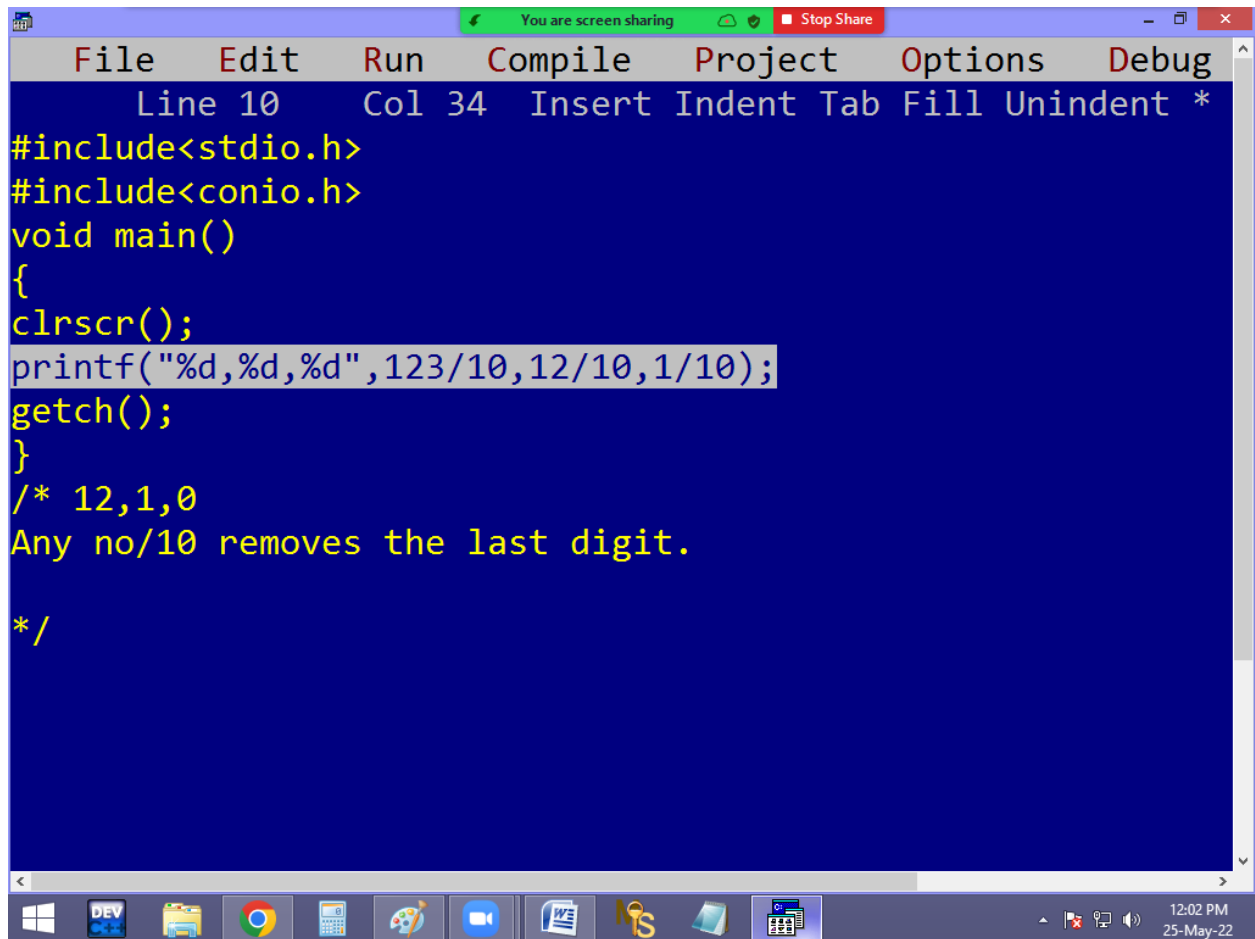
Line 12 Col 47 Insert Indent Tab Fill Unindent *

```
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%d,%d,%d",-5/2,5/-2,-5/-2);
getch();
}
/* -2,-2,2
```

In Division any one operand negative then result also negative. both are negative result is positive

```
*/
```

11:58 AM
25-May-22

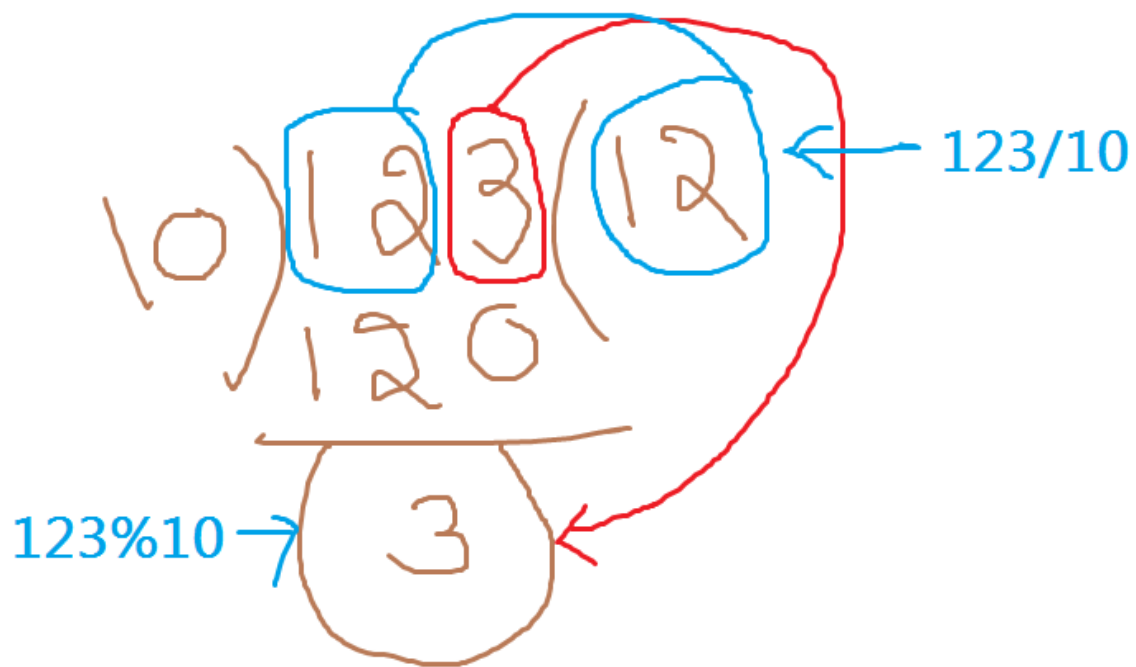


The image shows a screenshot of a C++ IDE window. The title bar at the top indicates "You are screen sharing" and "Stop Share". The menu bar includes "File", "Edit", "Run", "Compile", "Project", "Options", and "Debug". The status bar at the top shows "Line 10", "Col 34", and "Insert Indent Tab Fill Unindent *". The code editor has a dark blue background with yellow text. The code is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
printf("%d,%d,%d",123/10,12/10,1/10);
getch();
}
/* 12,1,0
Any no/10 removes the last digit.

*/
```

The taskbar at the bottom shows various application icons, including Windows, DEV, File Explorer, Google Chrome, Calculator, Paint, Video Conferencing, Word, Notepad, and a folder icon. The system clock in the bottom right corner displays "12:02 PM" and "25-May-22".



Eg. print a 3 digit no in reverse order without using loop.

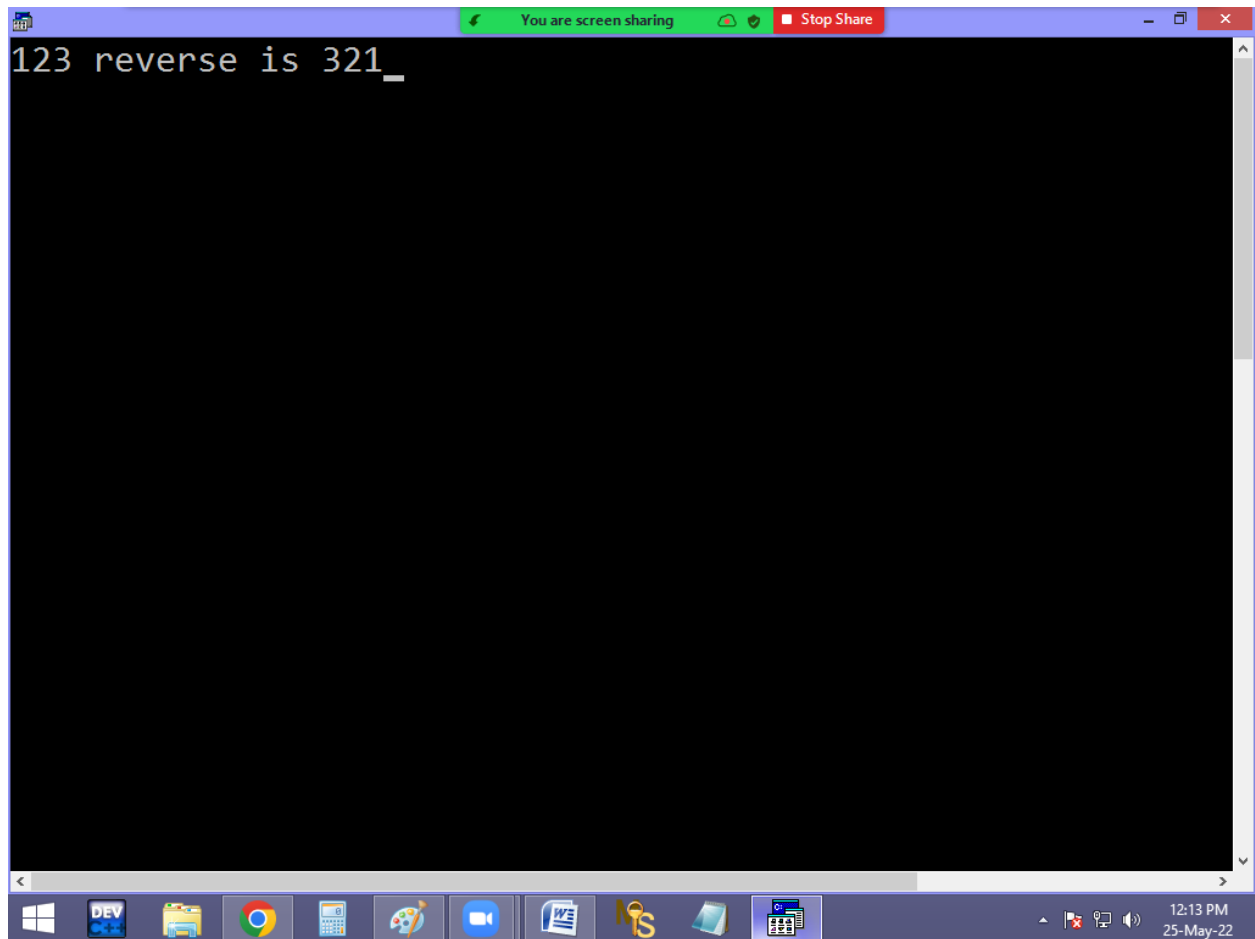
You are screen sharing Stop Share

File Edit Run Compile Project Options Debug

Line 7 Col 56 Insert Indent Tab Fill Unindent *

```
#include<stdio.h>
#include<conio.h>
void main()
{
int n=123;
clrscr();
printf("%d reverse is %d",n,n%10); /*123 rev is 123%10=3 */
n=n/10; /* last digit 3 deleted i.e. n=12 */
printf("%d%d",n%10,n/10);/*12%10=2, 12/10=1 */
getch();
}
```

12:12 PM 25-May-22



Eg. Read two numbers and do all arithmetic operations [+, -, *, %, /].

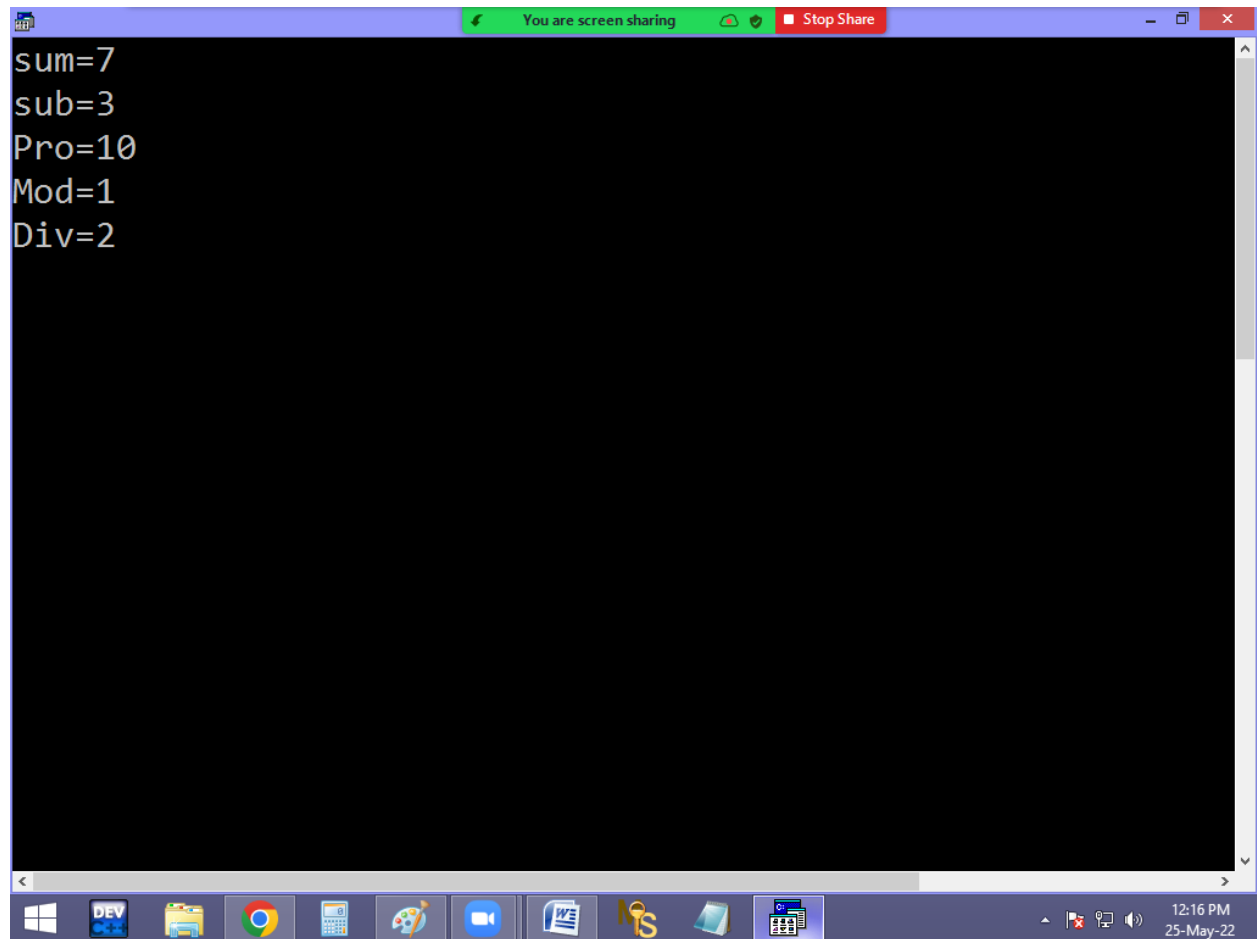
You are screen sharing Stop Share

File Edit Run Compile Project Options Debug

Line 13 Col 2 Insert Indent Tab Fill Unindent *

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a=5, b=2;
clrscr();
printf("sum=%d\n",a+b);
printf("sub=%d\n",a-b);
printf("Pro=%d\n",a*b);
printf("Mod=%d\n",a%b);
printf("Div=%d",a/b);
getch();
}
```

12:16 PM 25-May-22



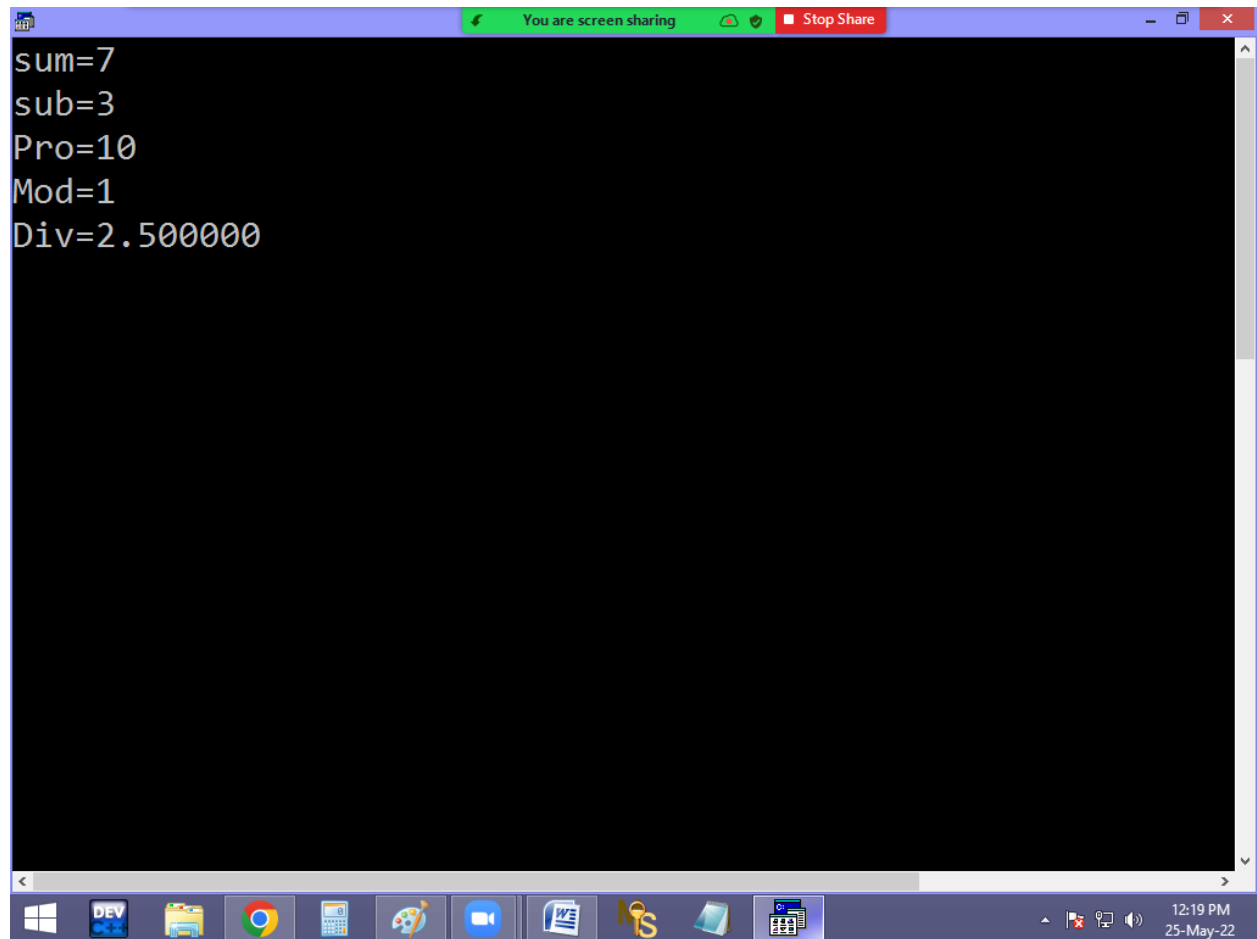
You are screen sharing Stop Share

File Edit Run Compile Project Options Debug

Line 11 Col 56 Insert Indent Tab Fill Unindent *

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a=5, b=2;
clrscr();
printf("sum=%d\n",a+b);
printf("sub=%d\n",a-b);
printf("Pro=%d\n",a*b);
printf("Mod=%d\n",a%b);
printf("Div=%f",(float)a/b); /* explicit type casting*/
getch();
}
```

12:19 PM 25-May-22



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File Edit Run Compile Project Options Debug

Error: Illegal use of floating point in function main

```
#include<stdio.h>
#include<conio.h>
void main()
{
float a=5.3, b=2.77;
scr();
printf("sum=%f\n",a+b);
printf("sub=%f\n",a-b);
printf("Pro=%f\n",a*b);
printf("Mod=%f\n",a%b);
printf("Div=%f",a/b);
getch();
}
```

12:21 PM 25-May-22

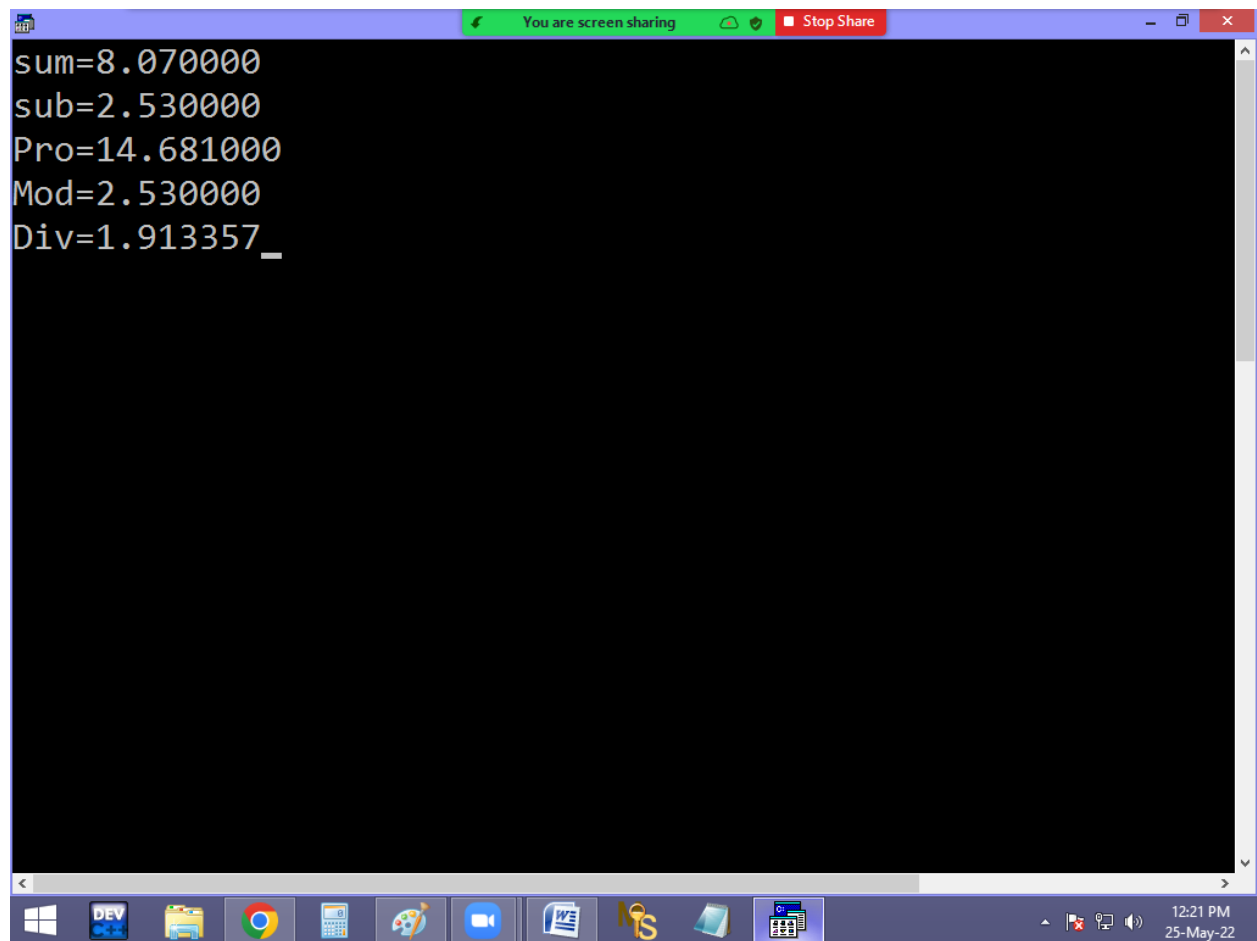
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File Edit Run Compile Project Options Debug

Line 7 Col 4 Insert Indent Tab Fill Unindent *

```
#include<stdio.h>
#include<conio.h>
#include<math.h>
void main()
{
float a=5.3, b=2.77;
clrscr();
printf("sum=%f\n",a+b);
printf("sub=%f\n",a-b);
printf("Pro=%f\n",a*b);
printf("Mod=%f\n",fmod(a,b));
printf("Div=%f",a/b);
getch();
}
```

12:21 PM 25-May-22



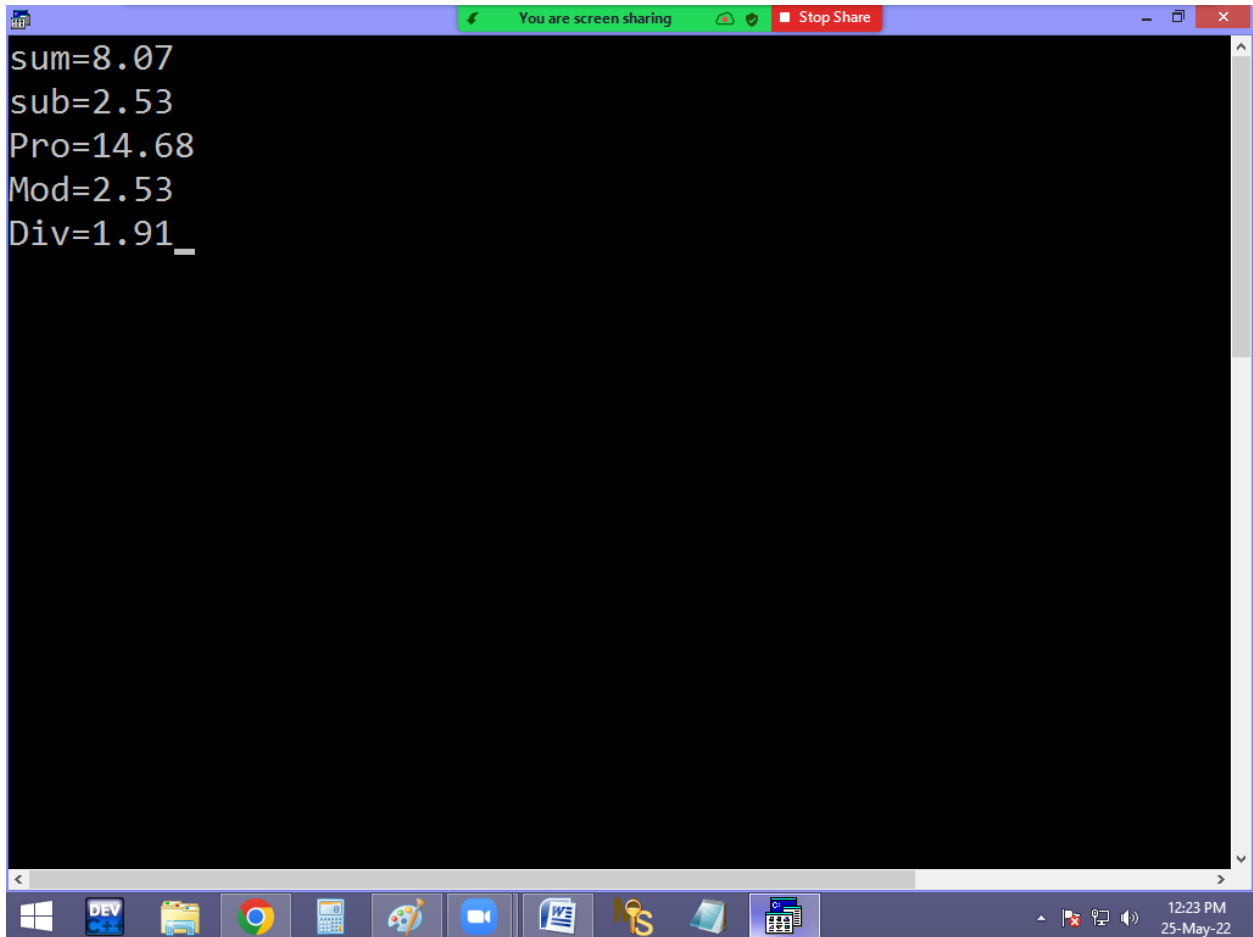
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File Edit Run Compile Project Options Debug

Line 12 Col 16 Insert Indent Tab Fill Unindent *

```
#include<stdio.h>
#include<conio.h>
#include<math.h>
void main()
{
float a=5.3, b=2.77;
clrscr();
printf("sum=%.2f\n",a+b);
printf("sub=%.2f\n",a-b);
printf("Pro=%.2f\n",a*b);
printf("Mod=%.2f\n",fmod(a,b));
printf("Div=%.2f",a/b);
getch();
}
```

12:22 PM 25-May-22

A screenshot of a Windows desktop environment. At the top, a green status bar indicates 'You are screen sharing' with a 'Stop Share' button. Below this is a black terminal window with white text displaying the results of several arithmetic operations: 'sum=8.07', 'sub=2.53', 'Pro=14.68', 'Mod=2.53', and 'Div=1.91_'. The Windows taskbar is visible at the bottom, showing icons for various applications including a development environment (DEV), file explorer, Google Chrome, calculator, paint, video conferencing, Word, and a folder named 'MS'. The system clock in the bottom right corner shows '12:23 PM' and '25-May-22'.

Relational operators [==(comparison), <, >, <=, >=, !=(not equal)]:

They are used to check the given condition or expression is true or false. If condition true it return always 1. If condition false always it return 0.

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File Edit Run Compile Project Options Debug

Line 1 Col 18 Insert Indent Tab Fill Unindent *

```
#include<stdio.h>#include<conio.h>
void main()
{
clrscr();
printf("%d\n",9==9);
printf("%d\n",9==19);
printf("%d\n",9!=19);
printf("%d\n",9==9.0);
printf("%d\n",'a'==65); /* 'a' ascii 97==65==>false==>0*/
printf("%d\n",'a'==97);
printf("%d\n",'a'=='A'+32); /*97==65+32*/
printf("%d\n",0.1 > .1);
printf("%d\n",'a' <= 'z'); /* 97<=122 */
printf("%d\n", 5+3/2==4); /*3/2=1 + 5=6==4==>false==>0*/
printf("%d\n", (5+3)/2==4);
printf("%d\n", 5/5%5==0);getch();
}
```

12:44 PM 25-May-22

