

linearSystem

Write a C program that computes the solutions for x and y in the linear system of equations:

$$a_1x + b_1y = c_1$$

$$a_2x + b_2y = c_2$$

The solutions for x and y are given by:

$$x = \frac{b_2c_1 - b_1c_2}{a_1b_2 - a_2b_1} \quad \text{and} \quad y = \frac{a_1c_2 - a_2c_1}{a_1b_2 - a_2b_1}$$

The program reads in a_1 , b_1 , c_1 , a_2 , b_2 and c_2 , and then computes and prints the solutions. In your program, if the denominator ($a_1b_2 - a_2b_1$) of the above equations is zero, then it prints an error message "Denominator is zero!". No need to check errors on user input.

A sample program template is given below.

```
#include <stdio.h>
#include <math.h>
int main()
{
    /* Write your code here */
    return 0;
}
```

Sample input and output sessions are given below:

(1) Test Case 1:

Enter a1,b1,c1,a2,b2,c2:

1 1 1 5 7 9

x=-1.00,y=2.00

(2) Test Case 2:

Enter a1,b1,c1,a2,b2,c2:

1 1 2 2 3 3

x=3.00,y=-1.00

(3) Test Case 3:

Enter a1,b1,c1,a2,b2,c2:

1 3 2 5 3 3

x=0.25,y=0.58

(4) Test Case 4:

Enter a1,b1,c1,a2,b2,c2:

1 1 1 1 1 1

Denominator is zero!