S.No: 4	Exp. Name: ***Write a C program to find Area of a Triangle using Heron's formula***	Date:2022-12-31

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Aim:

Write a program to find the `area` of a **triangle** using Heron's formula.

During execution, the program should print the following message on the console:

```
sides:
```

For example, if the user gives the following as **input** (input is positive floating decimal point numbers):

```
sides: 2.3 2.4 2.5
```

Then the program should **print** the result round off upto 2 decimal places as:

```
area: 2.49
```

Instruction: Your input and output layout must match with the sample test cases **(values as well as text strings)**.

The area of a triangle is given by `Area = √ p(p − a)(p − b)(p − c)`, where `p` is half of the perimeter, or `(a + b + c) / 2`. Let a,b,c be the lengths of the sides of the given triangle.

Hint: Use `sqrt` function defined in `math.h` header file

Source Code:

Program313.c

```
#include<stdio.h>
#include<math.h>
int main()
{
   float a,b,c,s;
   float farea;
   printf("sides: ");
   scanf("%f%f%f",&a,&b,&c);
   s=(a+b+c)/2.0;
   farea =sqrt(s*(s-a)*(s-b)*(s-c));
   printf("area: %.2f",farea);
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
`sides:  2.3 2.4 2.5`
`area: 2.49`

Test Case - 2
User Output
`sides:  2.6 2.7 2.8`

```
area: 3.15
```