

Quiz Section for Program Design (I)

Exercise #1

It is the Moon Festival now! The Moon Festival is one of the most important festivals within the Chinese community. The Chinese will send each other a flat *cylindrical* traditional Chinese dessert, “moon cake,” as a gift. Low, a 21-year-old undergraduate student and introvert received a huge moon cake from her family. She could not finish the whole cake by herself, so she decided to share it with her friends.

Low wants to cut the cake equally and share it with her friends. Among her friends, there was one person she had fallen in love with, so she decided to give her two pieces of moon cake. Please calculate the volume of a single piece of moon cake and the total volume of cakes her crush will get.

Hint: You can use `scanf` to read input value and store it in a variable. An example of using `scanf` to read an integer input value and store it in an integer variable `int i` is as follows:

```
scanf("%d", &i);
```

- **Input Format**

Three integers n , h , and r , represent the number of friends of Low, including her crush, the cake's height, and the cake's radius, respectively.

- **Output Format**

Print two decimal numbers x and y correct to 3 decimal places representing the volume of a piece of moon cake and the total volume of cakes her crush will get.

- **Technical Specifications**

- $2 \leq n \leq 1000$
- $1 \leq h, r \leq 1000$
- Use 3.14159 as π

The table below shows the example input and output.

Input	Output
<u>2 1 1</u>	1.047 2.094
<u>1000 1000 1000</u>	3138451.548 6276903.097
<u>2 3 6</u>	113.097 226.194