ACM-ICPC Thailand Southern Programming Contest 2013

Hosted by
Department of Computer Engineering
Prince of Songkla University Hatyai Campus

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Contest Problems

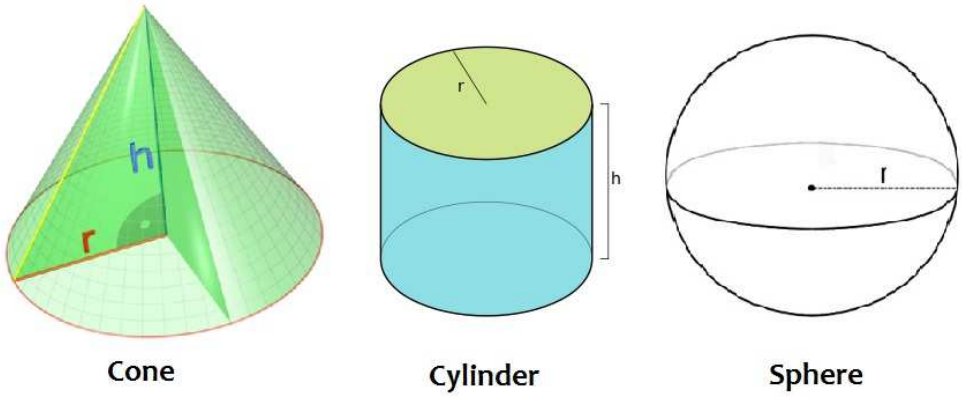
- There are **8** problems (A-H) to solve within 3 hours 30 minutes.
- Solve as many problems as you can, in an order of your choice.
- Use C or C++ or Java to program at your convenience for any problems.
- Input and output of each program are **standard input** and **output**.

Problem A	Unlock My Safe
Problem B	Two Mysterious Alphabets from a Tree
Problem C	Max Volume
Problem D	Birthday Statistics
Problem E	Nonogram
Problem F	Jane's First Words
Problem G	Range Sum Query
Problem H	Sum of Distinct Numbers ผลรวมเลขไม่ซ้ำ

Problem C. Max Volume

Time Limit: 1s

Write a program to find the maximum volume of given geometric 3-dimensional figures. Here, there are 3 types of figures: cone, cylinder and sphere.



The volume (V) of each figure can be calculated by the following formulas.

Cone: $V = (1/3)\pi r^2 h$

Cylinder: $V = \pi r^2 h$

Sphere: $V = (4/3)\pi r^3$

Use the value $\pi = 3.14159$ in your calculation.

Input

The first line of the input contains a positive integer *n (1<=n<=100)* which is the number of figures. The *n* following lines contain the description of each figure. In case of a cone, the line begins with letter `C` and followed by 2 values: *r* and *h* respectively. If it is a cylinder, the line begins with letter `L` and followed by 2 values: *r* and *h* respectively. If it is a sphere, the line begins with letter `S` and followed by only one value which is *r*.

Output

Print out the max volume among the input figures with 3 decimal places

Sample Input	Sample Output
5 S 3.0 C 2.5 3 S 1.79 L 2.78 1.4 C 1.15 2.36	113.097