11109   Rinse

Granny's reunion was a smashing success. Next she is expecting a visit from Eliot Ness and in anticipation of his visit would like to remove as much whiskey from the cream can as possible prior to his visit.

Granny can upend the cream can, thus pouring its contents on the ground. But due to surface tension and the shape of the can a small amount of the content remains, even after the can is upended. Granny has a barrel full of rain water that she can use to rinse the can several times. Each rinse involves pouring some amount of water (perhaps none) into the cream can, mixing it thoroughly with the existing contents, and pouring it out. After each rinse an amount of liquid remains, some fraction of which is whiskey and the rest water.

Mr. Ness' visit is imminent, affording Granny the time to do at most k rinses. You are to determine a rinsing strategy that Granny should employ to minimize the amount of residual whiskey in the cream can after the last rinse.

Input

Standard input consists of several test cases. Each test case is represented by a line with five numbers:

- $0 < k \leq 100$ — an integer denoting the maximum number of rinses

- $V_b > 0$ — a real number denoting the volume of available rain water in the barrel

- $V_w > 0$ — a real number denoting the volume of whiskey in the cream can

- $V_r > 0$ — a real number denoting the volume of liquid that cannot be poured out by upending the can (further liquid might be eliminated by evaporation, but there is insufficient time before Ness' visit for any evaporation to take place)

- $V_c > V_w, V_r$ — a real number denoting the maximum capacity of the cream can.

A line containing '0' follows the last case.

Output

For each test case, output r, the number of rinses that Granny should perform. On the same line, output r real numbers, rounded to two decimal places, giving the amount of rain water to be used for each rinse, in order.

Note that the total amount of water used in all rinses must not exceed V_b. The total amount of liquid in the cream can cannot exceed V_c at any time. Assume that whiskey and water mix perfectly and that their volumes are additive; that is, x units of whiskey and y units of water combine to form $x + y$ units of liquid.

Sample Input

```
2 15.0 25.0 1.0 50.0
0
```

Sample Output

```
2 0.00 15.00
```