Problem F: Fault

> *Q: “If the AI makes a mistake and makes me late for school, should I tell my teacher that the AI made me late, or should I just blame the governor?”*
>
> *A: “AI cannot make mistakes. If given proper prompts and management, its intelligence will surpass human decision-making.”*

As an AI developer, you begin to panic. If a student is ever late, whose fault is it? The AI’s, yours as its developer, or someone else’s entirely? Either way, you now carry the heavy burden of making sure that no Thai student is ever late for school again.

A student’s house is ***N*** blocks away from school. Every block is exactly 100 metres long, and each block has its own speed limit. The student walks the blocks from home (block ***1***) to school (block ***N***).

Your AI must choose a **target speed *V*** (a real number, in metres per minute) for the whole journey. Within each block the student moves as fast as this target allows, but never breaks the law: the actual speed in block ***i*** is $\min(V, L_i)$, where L_i is speed limit of the block.

The student must reach school within ***M*** minutes. Because the student would rather not rush, your AI must report the minimum target speed ***V*** for which the student still arrives on time.

Input:

The first line of input contains an integer ***T***, the number of test cases.

Each test case consists of two lines:

- The first line contains ***N*** (the number of blocks) and ***M*** (the time limit in minutes).
- The second line contains ***N*** values L_1, L_2, L_3, …, L_N, the speed limit of each block.

Both M and the speed limits may be given as real numbers (with a decimal point).

Output:

For each test case, print on its own line the minimum speed that lets the student reach school within ***M*** minutes while obeying every speed limit, formatted with 4 digits after the decimal point. If it is not possible to arrive in time, print “impossible”.

Sample Input	Sample Output
3 5 20.0 100.0 100.0 100.0 100.0 100.0 4 10.0 60.0 75.0 30.0 40.0 8 8.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 90.0	25.0000 48.0000 impossible

Explanation:

- Test Case #1: All the blocks have speed limits of 100 meters per minute. Choosing $V = 25$ will take 4 minutes to walk each block, adding up to 20 minutes in total.
- Test Case #2: If choosing $V = 48$, the student can use the chosen speed in the first two blocks (speed limits 60 and 75 are more than the chosen speed), while the last two blocks run at their own limits. The total time is 100/48 + 100/48 + 100/30 + 100/40 = 10 minutes.
- Test Case #3: No matter what value V is chosen, the speed is capped by each block's speed limit. It is not possible to arrive at school within 8 minutes.

Constraints:

- $1 \le T \le 100$
- $1 \le N \le 1{,}000$
- $1 \le M \le 1{,}000{,}000{,}000$
- $1 \le L_i \le 100$