Economics Students (b)

Problem Description

N students took a course on economics and $m_1, m_2, m3, \ldots\ldots m_n$ represent marks of students 1 to N.
Output mean, variance and standard deviation of the class.

Input format

First line contains a integer N. Second line contains N integers representing marks of each student.

N
$m_1, m_2, m_3, \ldots\ldots m_n$

Output format

Output three space separated decimals mean, variance and standard deviation respectively, with correctness atleast till 6 decimal spaces

Error handling

Marks should be in range [0,100], if not print (without quotes) "INVALID INPUT", ensure that there are no additional spaces and that text is in **Upper case**.

Constraints

$1 <= N <= 1e5$
$0 <= m_i <= 1e9$

Sample input 1

5
10 30 40 60 70

Sample output 1

42.000000 456.000000 21.354157

Sample Input 2

5
101 30 40 60 70

Sample Output 2

INVALID INPUT