UVa Online Judge

10746 Crime Wave - The Sequel

n banks have been robbed this fine day. m (greater than or equal to n) police cruisers are on duty at various locations in the city. n of the cruisers should be dispatched, one to each of the banks, so as to minimize the average time of arrival at the n banks.

Input

The input file contains several sets of inputs. The description of each set is given below:

The first line of input contains $0 < n \leq m \leq 20$. n lines follow, each containing m positive real numbers: the travel time for cruiser m to reach bank n.

Input is terminated by a case where $m = n = 0$. This case should not be processed.

Output

For each set of input output a single number: the minimum average travel time, accurate to **2** fractional digits.

Sample Input

```
3 4
10.0 23.0 30.0 40.0
5.0 20.0 10.0 60.0
18.0 20.0 20.0 30.0
0 0
```

Sample Output

```
13.33
```