Problem L. Construction of Town

Time limit: 2 seconds
Memory limit: 1024 megabytes

You are given a non-decreasing sequence of positive integers $X = (X_1, X_2, \ldots, X_{N-1})$ of length $N - 1$.

Define the cost of a simple connected undirected graph G with N vertices and M edges as $\sum_{i=1}^{N} \sum_{j=i+1}^{N} X_{d(i,j)}$. Here, $d(i, j)$ is defined as the minimum number of edges one must traverse to move from vertex i to vertex j in G.

Construct one simple connected undirected graph G with N vertices and M edges that minimizes the cost.

Constraints

- $2 \leq N \leq 100$
- $N - 1 \leq M \leq \frac{N(N-1)}{2}$
- $1 \leq X_1 \leq X_2 \leq \cdots \leq X_{N-1} \leq 10^9$

Input

The input is given in the following format from standard input:

N M
X_1 X_2 $\ldots$ X_{N-1}

Output

When the i-th edge in the graph connects vertex A_i and vertex B_i, output M lines as follows:

A_1 B_1
A_2 B_2
$\vdots$
A_M B_M

Examples

standard input	standard output
3 2 4 5	1 2 1 3
4 6 12 34 56	1 2 1 3 1 4 2 3 2 4 3 4

Note

For the first sample case:

In this output, the cost is $X_{d(1,2)} + X_{d(1,3)} + X_{d(2,3)} = X_1 + X_1 + X_2 = 13$.

Since there is no undirected graph with 3 vertices and 2 edges whose cost is 12 or less, this output is correct.