Problem A

N-Body

In physics. the N-Body problem consists in simulating the gravitational interaction between N particles (bodies) in a system and predicting how the system would evolve in a time frame. In this application the initial position and form for each particle is randomly generated. The application will compute gravitational forces, positions and velocity of each particle in each time step of the simulation. We are not interested in finding non different algorithms for computing the N- Body simulation. We just want to focus on obtaining a parallel version of the given code. Therefore, it is not allowed to change the computation method used in this problem.

Input

Input data contains the quantity of particles to be considered $(0 < N \leq 2^{15})$ and the number of time sops to lie simulated $(11 < S \leq 100)$, separated by a line break.
The input must he read from the standard input.

Output

Output data contains the coordinateas of each particle in the R. X, Y and Z coordinates are separated by one space and coordinates for each particle are separated by line breaks.
The output must be written to tJo standard output.

Example

Input	Output
Input 4 10	Output 0.38986 0.38878 0.70927 0.72951 0.07322 0.13581 0.28209 0.51066 0.99480 0.46793 0.72547 0.13771