Problem C. Credit Cards

Input file:	*standard input* or input.txt
Output file:	*standard output* or output.txt
Time limit:	1 second
Memory limit:	512 mebibytes

The T-Bank is the first bank that issues credit cards in the shape of obtuse triangles for its clients.

Due to the bank's personal approach to the clients, the sizes of all sides of the triangles are **unique** integers in the range $[1, n]$, i.e. the configurator tool works in the following way.

Initially, the pool contains n pairwise distinct integers between 1 and n. The configurator allows to choose any three integers from the current pool such that the triangle formed by three segments with the lengths equal to those integers is obtuse (i.e. one of its angles is strictly between 90 and 180 degrees), then the card is generated and those integers are **removed** from the current pool.

Find the maximum number of obtuse triangles that can be generated by the configurator for the given n.

Input

The first line contains the only integer n ($1 \le n \le 10^6$) — the number of available distinct integers in the configurator.

Output

On the first line print a single integer t ($0 \le 3 \cdot t \le n$) — the maximum number of obtuse triangles.

The i-th line of next t lines should contain 3 integers separated with spaces a_i, b_i, c_i ($1 \le a_i, b_i, c_i \le n$) — the side lengths of the i-th triangle.

If there are several possible solutions, print any of them.

Examples

standard input or input.txt	*standard output* or output.txt
3	0
4	1 2 3 4
9	2 2 3 4 6 5 9