Contest Duration: 2019-07-21(Sun) 20:00 (http://www.timeanddate.com/worldclock/fixedtime.html? iso=20190721T2100&p1=248) ~ 2019-07-21(Sun) 22:40 (http://www.timeanddate.com/worldclock/fixedtime.html? iso=20190721T2340&p1=248) (local time) (160 minutes) Back to Home (/home)

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F - Square Constraints Editorial (/contests/agc036/tasks/agc036_f/editorial)



Time Limit: 4 sec / Memory Limit: 1024 MB

Score: 1800 points

Problem Statement

Given is an integer N. How many permutations $(P_0,P_1,\cdots,P_{2N-1})$ of $(0,1,\cdots,2N-1)$ satisfy the following condition?

• For each i $(0 \leq i \leq 2N-1)$, $N^2 \leq i^2 + P_i^2 \leq (2N)^2$ holds.

Since the number can be enormous, compute it modulo M.

Constraints

- 1 < N < 250
- $2 < M < 10^9$
- All values in input are integers.

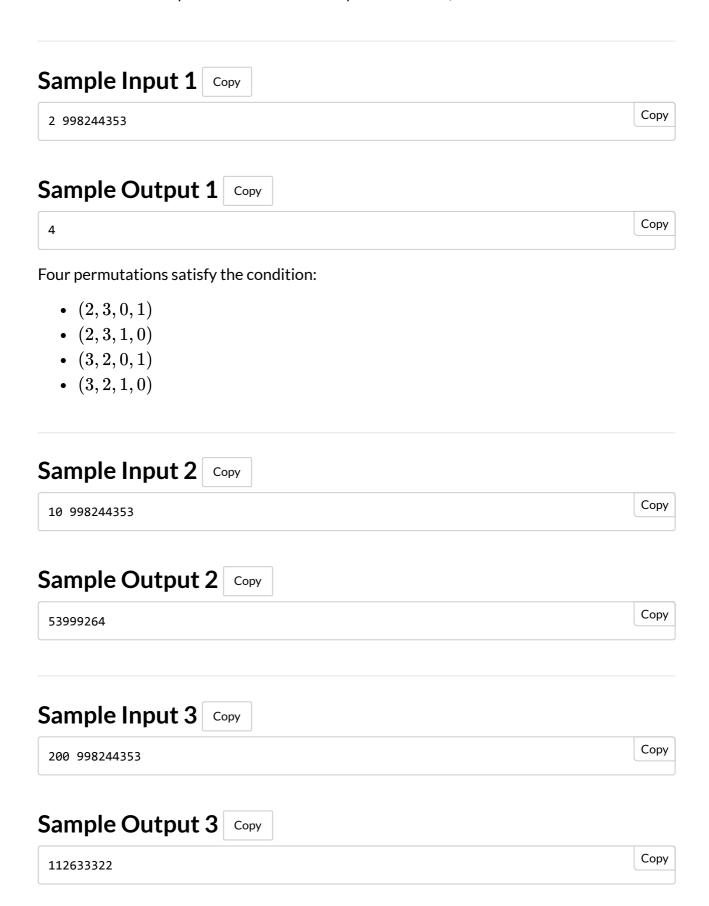
Input

Input is given from Standard Input in the following format:

N M2020-09-11 (Fri) 08:49:47 +08:00

Output

Print the number of permutations that satisfy the condition, modulo M.



2020-09-11 (Fri) 08:49:47 +08:00 re#url=https%3A%2F%2Fatcoder.jp%2Fcontests%2Fagc036%2Ftasks%2Fagc036_f%3Flang%3Den&title=F%20-

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