

N DIV PHI_N

Given an integer $N \leq 10^{40}$ find the smallest $m \leq N$ such that $m/\phi(m)$ is maximum.

Input

N1

N2

.

.

.

N20

Output

m1

m2

.

.

.

m20

Example

Input:

10

.

.

Output:

6

.

.