

SWE2004: Principles in Programming(Spring 2015)

Programming Lab #6

Due-date: April 16, 14:45PM

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Description

Calculate

$$R = B^P \bmod M$$

for large values of B , P , and M using an efficient algorithm. (Time limit : 3 seconds)

Input

Three integer values (in the order B , P , M) will be read one number per line. B and P are integers in the range 0 to 2147483647 inclusive. M is an integer in the range 1 to 46340 inclusive.

Output

The result of the computation. A single integer.

Sample Input

3

18132

17

17

1765

3

2374859

3029382

36123

Sample Output

13

2

13195