Assignment Case	
COMP6047 Algorithm and Programming	BINUS UNIVERSITY Software Laboratory Center
Computer Science	**<Case Code>**
Valid on *Compact Semester Year 2019/2020*	**Revision 00**

Soal
Case

Least Common Multiple

In arithmetic and number theory, the least common multiple (LCM) of two positive integers A and B, usually denoted by $LCM(A, B)$, is the smallest positive integer that is divided by both A and B.

An efficient solution is based on below formula for LCM of two integer A and B.

$$LCM(A, B) = \frac{(A * B)}{GCD(A, B)}$$

Where the greatest common divisor (GCD) is the largest positive integer that is divided by both A and B. Below formula for GCD of two integers A and B.

$$GCD(A, 0) = A$$
$$GCD(A, B) = GCD(B, A \bmod B)$$

Format Input

The first line of the input contains an integer T, which indicates the number of test cases.

Every test case starts with a line containing a single integer N, which is the number of the input value.

Following this line consist of N integer X_i to calculate LCM value.

Format Output

Every test case will start with a line of Case #X: Y, where X represents the test case number and, Y represents the LCM of X_i.

Constraints

$1 \le T \le 10000$

$2 \le N \le 10$

$1 \le X_i \le 30$

Sample Input	Sample Output
2 2 13 4 4 28 10 14 20	Case #1: 52 Case #2: 140

Explanation:

$$LCM(13,4) = \frac{(13*4)}{GCD(13,4)}$$

$$= \frac{52}{GCD(13, 4\,\%\,13)}$$

$$= \frac{52}{GCD(13,4)}$$

$$= \frac{52}{GCD(4, 13\,\%\,4)}$$

$$= \frac{52}{GCD(4,1)}$$

$$= \frac{52}{GCD(1, 4\,\%\,1)}$$

$$= \frac{52}{GCD(1,0)}$$

$$= \frac{52}{1}$$

$$= 52$$

Therefore, 52 is the LCM of 13 and 4.

Note:

Do not forget to add the newline character after printing the output.

LCM and GCD must be created using recursive function.