C Birthday Gift to SJ - 2

Today is your best friend SJ's birthday. You want to buy a birthday present for her. You want to buy such a present that she likes the most. You are very superstitious. You think that, SJ will love your gift, if the price of the present you buy is an **interesting number** (pretty weird isn't it :P).

An **interesting number** is such a number that can be expressed as a product of **Fibonacci numbers**(not necessarily distinct). For example, 16 (2*2*2*2), 40 (8*5) are interesting numbers but 7 is not.

Input
The first line of the input is an integer **t (t<=1000)** denoting the number of test cases. Then **t** line follows. Each line has two integers **a** and **b**.
$1<=a<=b<=10^{18}$.

Output
For each case you have to print an integer in a line denoting the maximum **interesting number** between **a** and **b** (inclusive). Print **-1** in case there is no solution.

Sample Input	Sample Output
3 1 7 1 10 1 1000000000000000000	6 10 1000000000000000000