

Problem G. Splitter

The performer "Splitter" converts natural numbers. It has two commands: "Subtract 1" and "Divide by 2", the first command decreases the number by 1, the second command decreases the number by half, if it is even, otherwise an error occurs. Given two natural numbers A and B (A> B). Write an algorithm for the Splitter that converts the number A to the number B and at the same time contains the minimum number of commands. Algorithm commands should be printed one per line, the first command is denoted as -1, the second command as :2.



Input data
Two natural numbers A and B are introduced.

Output
Print the answer to the problem.

Examples of
input data
179
20

output
-1
: 2
-1
: 2
: 2
-1
-1

```
void splitterNum() {  
    int num1;  
    int num2;  
  
    cin >> num1 >> num2;  
    while(num1 > num2){ // loop from num1 --> num2  
        if (num1 % 2 == 0 && (num1 / 2 >= num2)) { // if even, divide  
            num1 = num1 / 2;  
            cout << " :2 " << endl;  
        }  
        else { // if odd, - 1  
            num1--;  
            cout << " -1 " << endl;  
        }  
        //cout << num1 << endl;  
    }  
}
```