

12444 Bits and Pieces

Let A and B be non-negative integers and let $C = A \& B$ and $D = A | B$. Given C and D , can you find A and B such that the absolute difference $(|A - B|)$ is minimal? ($A \& B$ and $A | B$ are bitwise AND and OR respectively).

Input

The input starts with an integer T — the number of test cases ($T \leq 100$). T cases follow on each subsequent line, each of them containing integers C and D ($0 \leq C, D < 2^{31}$).

Output

For each test case, print integers A and B on a line such that $A \& B = C$, $A | B = D$, $A \leq B$ and $B - A$ is minimal. If there are no such A and B , print '-1' on the line instead.

Sample Input

```
3
2 3
3 2
3 15
```

Sample Output

```
2 3
-1
7 11
```

