Problem 4—Divisors

Mathematicians love all sorts of odd properties of numbers. For instance, they consider 945 to be an interesting number, since it is the first odd number for which the sum of its divisors is larger than the number itself.

To help them search for interesting numbers, you are to write a program that scans a range of numbers and determines the number that has the largest number of divisors in the range.

INPUT SPECIFICATION. The first line of input specifies the number N of ranges, and each of the N following lines contains a range, consisting of a lower bound L and an upper bound U, where L and U are included in the range. L and U are chosen such that $1 \leq L \leq 1{,}000{,}000{,}000$ and $0 \leq U - L \leq 10{,}000$. L and U will be separated by exactly one space, and the line will be terminated by **<EOLN>**.

OUTPUT SPECIFICATION. For each range, find the number P which has the largest number of divisors (if several numbers tie for first place, select the lowest), and the number of positive divisors D of P (where P is included as a divisor). Print the text "Between L and U, P has a maximum of D divisors.", where L, U, P, and D are the numbers as defined above. Follow each output case with exactly one **<EOLN>**.

SAMPLE INPUT.

```
3<EOLN>
1·10<EOLN>
1000·1000<EOLN>
999999900·1000000000<EOLN>
<EOF>
```

SAMPLE OUTPUT.

```
Between·1·and·10,·6·has·a·maximum·of·4·divisors.<EOLN>
Between·1000·and·1000,·1000·has·a·maximum·of·16·divisors.<EOLN>
Between·999999900·and·1000000000,·999999924·has·a·maximum·of·192·divisors.<EOLN>
<EOF>
```