# Problem B. Hemi Palindrome

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Input file:     Standard Input
Output file:    Standard Ouptut
Time limit:     1 second
```

A group of historians sneaked into Ruins of Corvus and found some mysterious binary strings. They worked hard and found that those are all *Hemi Palindrome*. A binary string is called *Hemi Palindrome* if it reads the same forwards as backwards by ingoring digits in odd indices or even indices (1-based index). E.g. "`101111`" is *Hemi Palindrome* as the numbers on odd indices is "`111`". "`11001`", "`10100`" are both *Hemi Palindromes* but "`101001`", "`11000`" are not.

Mr. Panda loves *Hemi Palindromes* so much and he wants to know the $K^{th}$ smallest *Hemi Palindrome* with length $N$ in lexicographic order.

## Input

The first line of the input gives the number of test cases, $T$. $T$ lines follow. Each line contains two integers $N$ and $K$.

## Output

For each test case, output one line containing "`Case #x: y`", where `x` is the test case number (starting from `1`) and `y` is the result of *Hemi Palindrome* written in binary format. If there are less than $K$ *Hemi Palindromes* with length $N$, `y` is "`NOT FOUND!`".

## Limits

- $1 \leq T \leq 100$.
- $1 \leq N \leq 10^5$.
- $1 \leq K \leq 10^{18}$.

## Sample input and output

| Sample Input | Sample Output |
|---|---|
| 4<br>2 1<br>3 3<br>3 5<br>3 100 | Case #1: 00<br>Case #2: 010<br>Case #3: 100<br>Case #4: NOT FOUND! |