C. Lucky Permutation

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Petya loves lucky numbers. Everybody knows that lucky numbers are positive integers whose decimal representation contains only the lucky digits **4** and **7**. For example, numbers **47**, **744**, **4** are lucky and **5**, **17**, **467** are not.

One day Petya dreamt of a lexicographically k-th permutation of integers from 1 to n. Determine how many lucky numbers in the permutation are located on the positions whose indexes are also lucky numbers.

Input

The first line contains two integers n and k $(1 \le n, k \le 10^9)$ — the number of elements in the permutation and the lexicographical number of the permutation.

Output

If the k-th permutation of numbers from 1 to n does not exist, print the single number "-1" (without the quotes). Otherwise, print the answer to the problem: the number of such indexes i, that i and a_i are both lucky numbers.

Examples

input

```
7 4
```

output

```
1
```

input

```
4 7
```

output

```
1
```

Note

A permutation is an ordered set of n elements, where each integer from 1 to n occurs exactly once. The element of permutation in position with index i is denoted as a_i $(1 \le i \le n)$. Permutation a is lexicographically smaller that permutation b if there is such a i $(1 \le i \le n)$, that $a_i < b_i$, and for any j $(1 \le j < i)$ $a_j = b_j$. Let's make a list of all possible permutations of n elements and sort it in the order of lexicographical increasing. Then the lexicographically k-th permutation is the k-th element of this list of permutations.

In the first sample the permutation looks like that:

```
1 2 3 4 6 7 5
```

The only suitable position is 4.

In the second sample the permutation looks like that:

```
2 1 3 4
```

The only suitable position is 4.