Problem J: Cat Identification

The *Identify Cats Personally Corporation* (ICPC) produces labels for cats with which you can uniquely identify any cat wearing one of their collars. All identification numbers use digits from a fixed set, so each produced package is built from the same ingredients: one collar and one digit-brick per available digit.

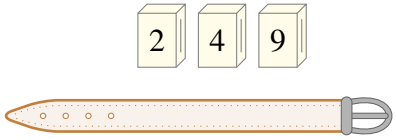

Figure J.1: Package contents for both sample inputs

The only difference between the packages is how they are assembled, namely the order in which the digit-bricks are put onto the collar. Of course the identification collars wouldn't be very useful if there were two with the same number on them, so ICPC guarantees that for each collar the order is unique.

The company distributes the packages in such a way that the collars are shipped out in descending order of identification number. Given that you were the i^{th} customer to buy a collar for your cat, which number is in your package?

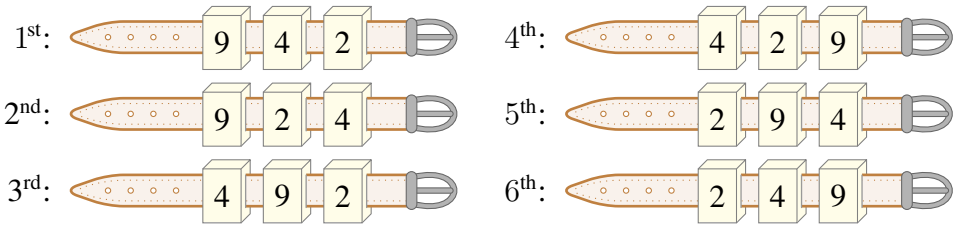

Figure J.2: The assembled packages

Input

The input consists of a string s and an integer i, where s specifies the digit-bricks used by the company and i ($i \geq 1$) is as described above. The digits in s will be between `0` and `9` inclusive, and no digit will appear more than once. You may safely assume that at least i collars have been produced.

Output

Print the cat identification number in the i^{th} package.

Sample Input 1

```
249 1
```

Sample Output 1

```
942
```

Sample Input 2

```
942 4
```

Sample Output 2

```
429
```

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