CCC 1996 - reconstructed statement

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Problem C: Pattern Generator

Input file: `pat.in`
Output file: `pat.out`

Write a program that repeatedly reads two numbers n and k and prints all bit patterns of length n with k ones in descending order (when the bit patterns are considered as binary numbers). You may assume that $30 >= n > 0$, $8 > k >= 0$, and $n >= k$. The first number in the input gives the number of pairs n and k. The numbers n and k are separated by a single space. Leading zeroes in a bit pattern should be included. See the example below.

Sample input

```
3
2 1
2 0
4 2
```

Sample output

```
The bit patterns are

10
01

The bit patterns are
00

The bit patterns are
1100
1010
1001
0110
0101
0011
```