

Pattern Generator

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 $30 \geq n > 0$, $8 \geq k \geq 0$, and $n \geq k$. 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
```