

Q6 // Hacking Physics?

Zhehai is trying to figure out how to study for his Grade 12 Physics True and False test. With no idea what Mrs. Mohan is teaching, he decides to figure out how many “trues” there will be on the test by looking at the answer key from last year’s scantron. Mrs. Mohan never changes her problems, so Zhehai knows how many “trues” there are going to be (this is why Mrs. Mohan’s Physics)*. However, he also knows that Mrs. Mohan randomizes all of the questions. Therefore, he wants a program to print out all of the possible orders the answers could be in. Given N , the number of questions, and M , the number of “trues,” print out the binary strings of every test in sorted order.

Input Specification:

The input will contain one line containing integers, $N(0 \leq N \leq 22)$ and $M(0 \leq M \leq 13)$, separated by a space. M will always be smaller than or equal to N .

Output Specification:

Output all possible binary numbers that are N bits long with M bits turned on in sorted order.

Sample Input:

```
4 3
```

Sample Output:

```
0111
```

```
1011
```

```
1101
```

```
1110
```

*P.S. - \$9.99 per scantron from Anish at the end of the school year.