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## 249. Matrix

time limit per test: 0.5 sec.  
 memory limit per test: 65536 KB  
 input: standard  
 output: standard

It is necessary to arrange numbers from 0 to  $2^{N+M}-1$  in the matrix with  $2^N$  rows and  $2^M$  columns. Moreover, numbers occupying two adjacent cells must differ only in single bit in binary notation. Cells are adjacent if they have common side. Matrix is cyclic, i.e. for each row the leftmost and rightmost matrix cells are considered to be adjacent (the topmost and the bottommost matrix cells are also adjacent).

### Input

The first line of input contains two integers N and M ( $0 < N, M$ ;  $N+M \leq 20$ ).

### Output

Output file must contain the required matrix in a form of  $2^N$  lines of  $2^M$  integers each.

### Sample test(s)

Input

1 1

Output

0 2

1 3

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Resource:	Petrozavodsk Summer Training Sessions 2004
Date:	August 25, 2004

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<a href="#">57610766</a>	Jul/23/2019 23:39	Wrong answer on test 6
<a href="#">57610727</a>	Jul/23/2019 23:37	Wrong answer on test 6
<a href="#">57608705</a>	Jul/23/2019 22:20	Wrong answer on test 6
<a href="#">57608575</a>	Jul/23/2019 22:15	Wrong answer on test 6
<a href="#">57606156</a>	Jul/23/2019 21:00	Wrong answer on test 6
<a href="#">57606063</a>	Jul/23/2019 20:57	Wrong answer on test 6
<a href="#">57605929</a>	Jul/23/2019 20:53	Wrong answer on test 6
<a href="#">57602233</a>	Jul/23/2019 19:18	Wrong answer on test 3
<a href="#">57602154</a>	Jul/23/2019 19:16	Wrong answer on test 1

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