## Transitive closure **P19374_en**

Examen final d'Algorísmia, FME (2015-01-16)

Write a program to compute the transitive closure of a directed graph with $n$ vertices. That is, you must compute an $n \times n$ matrix where at the $j$-th column of the $i$-th row there is a 1 if it is possible to go from $i$ to $j$, and there is a 0 otherwise.

### Input

Input consists of several cases. Every case begins with $n$ followed by the number of arcs $m$. Follow $m$ pairs $x$ $y$ to indicate an arc from $x$ to $y$, with $x \neq y$. Assume $1 \leq n \leq 200$, that the vertices are numbered between 0 and $n - 1$, and that there are no repeated arcs.

### Output

For every graph, print its transitive closure, followed by a line with 20 dashes.

### Observation

In the "large" private test cases, we have $m = \Theta(n^2)$.

### Sample input

```
2 1
0 1

1 0

4 5
1 0  2 3  3 1  2 1  3 0
```

### Sample output

```
1 1
0 1
--------------------
1
--------------------
1 0 0 0
1 1 0 0
1 1 1 1
1 1 0 1
--------------------
```

### Problem information

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