**Problem A**

Given an NxM grid, with blocked cells, find the largest connected empty area. For each empty cell, it is connected with four cells (if empty): Up, Down, Left and Right. You can never step into a blocked cell.

**Input**

First line: N (0<N<=100), M (0<M<=100).

Next N lines, each contains M characters. ‘.’ indicates empty cell. ‘#’ indicates blocked cells.

**Output**

One line with the largest connected area. See sample for more clarification.

|  |  |
| --- | --- |
| 5 3  ...  ##.  ...  .##  ... | 11 |
| 5 3  ...  ###  ...  .#.  ... | 8 |

**Problem B**

Given a directed graph find its strongly connected components.

**Input**

First line: N ( 0<N<=100000), number of nodes.

Second line: M ( 0<N<=300000), number of edges.

Next M lines, each: U V (0<=U, V<N), defines an edge from U to V.

**Output**

Strongly Connected Components. See sample for clarification

|  |  |
| --- | --- |
| 8  8  1 3  0 1  3 0  3 7  7 3  5 6  6 4  6 5 | 6 5  4  2  1 7 3 0 |

**Problem C**

Given a directed acyclic graph find a valid topological order. **This is a special judge problem.**

**Input**

First line: N (0 <N <=100000), number of nodes.

Second line: M (0<N<=300000), number of edges.

Next M lines, each: U V (0<=U, V<N), defines an edge from U to V.

**Output**

Topological Order. See sample for clarification

|  |  |
| --- | --- |
| 6  5  1 3  1 2  0 1  3 4  2 5 | 0  1  2  5  3  4 |

**Problem D**

Given a directed graph find its strongly connected components. **This is a special judge problem.**

**Input**

First line: N ( 0<N<=100000), number of nodes.

Second line: M ( 0<N<=300000), number of edges.

Next M lines, each: U V (0<=U, V<N), defines an edge from U to V.

**Output**

Strongly Connected Components. See sample for clarification

|  |  |
| --- | --- |
| 8  8  1 3  0 1  3 0  3 7  7 3  5 6  6 4  6 5 | 6 5  4  2  1 7 3 0 |