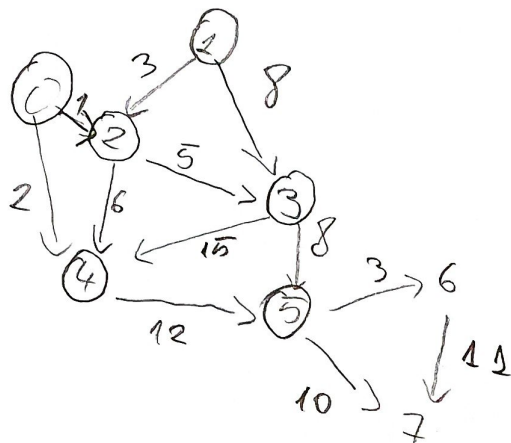


Bordianu Raul

Topological sorting using predecessor counting algorithm



Input file

```

8 12
0 2 4
0 4 2
1 2 3
1 3 8
2 3 5
2 4 6
3 4 15
3 5 8
4 5 12
5 6 3
5 7 10
6 7 11
  
```

	x, y	count: dictionary	PD: queue	sorted: list
init	x=0	0 1 2 3 4 5 6 7 0 0 2 2 3 2 1 2	<div>← 0 1 →</div>	[]
d ₁	x=0 y=2 y=4	0 1 2 3 4 5 6 7 0 0 1 2 2 2 1 2	<div>← 1 →</div>	[0]
d ₂	x=1 y=2 y=3	0 1 2 3 4 5 6 7 0 0 0 1 2 2 1 2	<div>← 2 →</div>	[0, 1]
d ₃	x=2 y=3 y=4	0 1 2 3 4 5 6 7 0 0 0 0 1 2 1 2	<div>← 3 →</div>	[0, 1, 2]
d ₄	x=3 y=4 y=5	0 1 2 3 4 5 6 7 0 0 0 0 0 1 1 2	<div>← 4 →</div>	[0, 1, 2, 3]
d ₅	x=4 y=5 y=6	0 1 2 3 4 5 6 7 0 0 0 0 0 0 1 2	<div>← 5 →</div>	[0, 1, 2, 3, 4]

it 6	$x=5$ $y=6$ $y=7$	<table><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td></tr></table>	0	1	2	3	4	5	6	7	0	0	0	0	0	0	0	1	<table><tr><td>4</td><td>6</td><td>4</td></tr></table>	4	6	4	$[0, 1, 2, 3, 4, 5]$
0	1	2	3	4	5	6	7																
0	0	0	0	0	0	0	1																
4	6	4																					
it 7	$x=6$ $y=7$	<table><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr></table>	0	1	2	3	4	5	6	7	0	0	0	0	0	0	0	0	<table><tr><td>4</td><td>7</td><td>4</td></tr></table>	4	7	4	$[0, 1, 2, 3, 4, 5, 6]$
0	1	2	3	4	5	6	7																
0	0	0	0	0	0	0	0																
4	7	4																					
it 8	$x=7$		<table><tr><td>4</td><td>4</td></tr></table>	4	4	$[0, 1, 2, 3, 4, 5, 6, 7]$																	
4	4																						

STOP

The graph is a DAG, $\text{len}([0, 1, 2, 3, 4, 5, 6, 7]) = \text{size of graph} = 8$.