Question 1.

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

0 represents ***False***, and positive integers represent ***weight***

0 : { 1, 2, 3 }

1 : { 3, 4 }

2 : { 5 }

3 : { 2, 4, 5, 6 }

4 : { 6 }

5 : { }

6 : { 5 }

{0=max\_value(2147483647)}

{0=max\_value(2147483647)}, 1=max\_value(2147483647)}

{0=max\_value(2147483647), 1=max\_value(2147483647), 3=max\_value(2147483647)}

{0=max\_value(2147483647), 1=max\_value(2147483647), 2=max\_value(2147483647), 3=max\_value(2147483647)}

1. The algorithm is supposed to go backward, therefore we need to trace back from 2 to 4. However, 2 has only one out leading to 5, which does not have any outs but only ins. Therefore, the algorithm would not work in this case.