**Project Report**

Task 2:

1. For small-net.txt

|  |  |
| --- | --- |
| **Initial Node** | **Max number of Iterations** |
| 1 | 2 |
| 2 | 2 |
| 3 | 2 |
| 4 | 2 |
| 5 | 3 |
| 6 | 3 |
| 7 | 3 |
| 8 | 2 |
| 9 | 3 |
| 10 | 2 |

1. For large-net-a.txt

|  |  |
| --- | --- |
| **Initial Node** | **Max number of Iterations** |
| 1 | 2 |
| 2 | 2 |
| 3 | 2 |
| 4 | 3 |
| 5 | 3 |
| 6 | 3 |
| 7 | 3 |
| 8 | 3 |
| 9 | 2 |
| 10 | 2 |
| 11 | 2 |
| 12 | 3 |
| 13 | 3 |
| 14 | 3 |
| 15 | 4 |
| 16 | 3 |
| 17 | 4 |
| 18 | 3 |
| 19 | 3 |
| 20 | 4 |
| 21 | 4 |
| 22 | 5 |
| 23 | 5 |
| 24 | 4 |
| 25 | 5 |
| 26 | 4 |
| 27 | 5 |
| 28 | 5 |
| 29 | 5 |
| 30 | 5 |
| 31 | 4 |
| 32 | 5 |

1. Large-net-b.txt

|  |  |
| --- | --- |
| **Initial Node** | **Max number of Iterations** |
| 1 | 3 |
| 2 | 3 |
| 3 | 3 |
| 4 | 3 |
| 5 | 3 |
| 6 | 3 |
| 7 | 3 |
| 8 | 3 |
| 9 | 3 |
| 10 | 3 |
| 11 | 3 |
| 12 | 3 |
| 13 | 3 |
| 14 | 3 |
| 15 | 4 |
| 16 | 3 |
| 17 | 4 |
| 18 | 3 |
| 19 | 3 |
| 20 | 4 |
| 21 | 4 |
| 22 | 5 |
| 23 | 5 |
| 24 | 4 |
| 25 | 5 |
| 26 | 4 |
| 27 | 5 |
| 28 | 5 |
| 29 | 5 |
| 30 | 5 |
| 31 | 4 |
| 32 | 5 |

Findings:

From the three readings and curves, we can see that the time taken to converge increases slowly as the number of nodes in the network goes on increases. This is not a linear increase and thus it is very scalable. Also, the number of iterations taken to converge depends on the intial node.