**Data Analysis** - Sample Date for a **40 Node Network - Single Source to Multiple Destinations**

Hopfield Neural Networks Convergent Algorithms

|  |  |  |
| --- | --- | --- |
| Hopfield Neural Networks | Source to Multiple Destinations | Total Cost |
| Park & Keum | 1-> 11-> 12-> 13-> 14-> 7-> 14 -> 15 -> 17 -> 18 -> 19 -> 20 -> 11 -> 10 -> 11 -> 12 -> 13 -> 14 -> 15 -> 6 | **500** |
| Park & Choi | 1-> 11-> 12-> 13-> 14-> 7-> 14 -> 15 -> 17 -> 18 -> 19 -> 20 -> 11 -> 10 -> 11 -> 12 -> 13 -> 14 -> 15 -> 6 | **500** |
| Ahn & Ramakrishna | 1-> 11-> 12-> 13-> 14-> 7-> 14 -> 15 -> 17 -> 18 -> 19 -> 20 -> 11 -> 10 -> 11 -> 12 -> 13 -> 14 -> 15 -> 6 | **500** |
| Ali & Kamoun | 1-> 2-> 8-> 7-> 14 -> 15 -> 17 -> 18 -> 19 -> 20 -> 11 -> 10 -> 11 -> 12 -> 13 -> 14 -> 15 -> 6 | **466** |

Non-Neural Convergent Algorithms

|  |  |  |  |
| --- | --- | --- | --- |
| Source to Multiple Destinations | Dijkstra Algorithm | Bellman Ford Algorithm | Floyd Warshall Algorithm |
| 1-> 7 | 51 | 51 | 51 |
| 7-> 18 | 104 | 166 | 104 |
| 18-> 10 | 80 | 120 | 80 |
| 10 -> 6 | 82 | 183 | 82 |
| Total Cost For Multiple Destination | **318** | **520** | **318** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Dijkstra | Bellman Ford | Floyd Warshall | Park & Keum | Ali & Kamoun | Park & Choi | Ahn & Ramakrishna |
| Total Cost For Multiple Destination | **318** | **520** | **318** | **500** | **466** | **500** | **500** |

Total Results for 40 Node Network - Single Source to Single Destination