**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 Metric Cost |
| Park & Keum | **1**-> 7-> 10-> 17-> 25-> **23**-> 27 -> 30 -> **38** -> 33 -> 24 -> 15 -> **11** -> **9** | **4581** |
| Park & Choi | **1**-> 6-> 13-> 18-> **23**-> 27 -> 28 -> 29 -> 32 -> 35 -> 36 -> 37 ->  **38** -> 40 -> 33 -> 24 -> 15 -> **11** -> **9** | **9345** |
| Ahn & Ramakrishna | **1**-> 6-> 13-> 18-> **23**-> 27 -> 28 -> 29 -> 32 -> 35 -> 36 -> 37 -> **38** -> 33 -> 24 -> 15 -> **11 -> 9** | **8797** |
| Ali & Kamoun | No Convergence | **−** |
|  |  |  |

Non-Neural Convergent Algorithms

|  |  |  |  |
| --- | --- | --- | --- |
| Source to Multiple Destinations | Dijkstra Algorithm | Bellman Ford Algorithm | Floyd Warshall Algorithm |
| 1 -> 23 | 1178 | 1178 | 1178 |
| 23 -> 38 | 1646 | 1746 | 1646 |
| 38 -> 11 | 1271 | 4083 | 1271 |
| 11 -> 9 | 1481 | 1641 | 1481 |
| Total Cost For Multiple Destination | **5576** | **8648** | **5576** |

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Dijkstra | Bellman Ford | Floyd Warshall | Park & Keum | Park & Choi | Ahn & Ramakrishna | Ali & Kamoun |
| Total Metric Cost For Multiple Destination | **5576** | **8648** | **5576** | **4581** | **9345** | **8797** | **−** |