**Data Analysis** - Sample Date for a **20 Node Network - Single Source to Multiple Destinations**

Hopfield Neural Networks Convergent Algorithms

|  |  |  |
| --- | --- | --- |
| Hopfield Neural Networks | Source to Multiple Destinations | Total Cost |
| Park & Keum | 17-> 18-> 19-> 18 -> 19 -> 20 -> 11 -> 10 -> 11 -> 1 -> 2 -> 3 -> | **348** |
| Park & Choi | 17-> 18-> 19-> 18 -> 19 -> 20 -> 11 -> 10 -> 11 -> 1 -> 2 -> 3 -> | **348** |
| Ahn & Ramakrishna | 17-> 18-> 19-> 18 -> 19 -> 20 -> 11 -> 10 -> 11 -> 1 -> 2 -> 3 -> | **348** |
| Ali & Kamoun | 17-> 18-> 19-> 18 -> 19 -> 20 -> 11 -> 10 -> 11 -> 1 -> 2 -> 3 -> | **348** |

Non-Neural Convergent Algorithms

|  |  |  |  |
| --- | --- | --- | --- |
| Source to Multiple Destinations | Dijkstra Algorithm | Bellman Ford Algorithm | Floyd Warshall Algorithm |
| 17 -> 19 | 57 | 179 | 57 |
| 19-> 8 | 81 | 135 | 81 |
| 8-> 10 | 45 | 88 | 45 |
| 10-> 3 | 93 | 107 | 93 |
| Total Cost For Multiple Destination | **276** | **509** | **276** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Dijkstra | Bellman Ford | Floyd Warshall | Park & Keum | Ali & Kamoun | Park & Choi | Ahn & Ramakrishna |
| Total Cost For Multiple Destination | **276** | **509** | **276** | **348** | **348** | **348** | **348** |

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