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*COP5615*

Project 2

**Compile**

The command line should be like this formate:

project2 [numNodes] [topology] [algorithm]

For example,

project2 8 full gossip

project2 8 3D gossip

project2 8 line gossip

project2 8 imperfect3D gossip

project2 8 full push\_sum

project2 8 3D push\_sum

project2 8 line push\_sum

project2 8 imperfect3D push\_sum

**Graphical user interface, text, application

Description automatically generated**

**Results**

Push Sum

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of Nodes | Full Network | 3D Grid | Line | Imperfect 3D Grid |
| 8 | 388.345 | 458.8129 | 608.1352 | 358.7341 |
| 27 | 318.5989 | 536.8684 | 686.2252 | 406.7905 |
| 64 | 287.3333 | 496.9748 | 780.0448 | 386.9128 |
| 125 | 327.2827 | 437.2081 | 770.1747 | 367.3247 |
| 216 | 346.9029 | 430.0762 | 721.0088 | 387.4937 |
| 343 | 298.1317 | 418.1859 | 848.548 | 368.8174 |
| 512 | 338.78 | 459.3646 | 789.2451 | 370.1671 |
| 729 | 331.0079 | 431.1396 | 840.7533 | 391.0683 |
| 1000 | 331.8598 | 427.3825 | 830.6734 | 391.2052 |
| 3375 | 9912.5235 | 13115.4004 | 26026.0845 | 1199.1591 |

Gossip

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of Nodes | Full Network | 3D Grid | Line | Imperfect 3D Grid |
| 8 | 4.744 | 4.8933 | 4.789 | 4.7754 |
| 27 | 4.846 | 4.8709 | 4.8423 | 4.7519 |
| 64 | 5.3117 | 5.8435 | 5.3285 | 5.6463 |
| 125 | 7.3802 | 6.6953 | 6.6514 | 6.9813 |
| 216 | 9.1738 | 8.7997 | 8.3221 | 7.9091 |
| 343 | 13.5251 | 10.4114 | 10.1929 | 11.8098 |
| 512 | 11.684 | 14.03350 | 13.5416 | 14.1627 |
| 729 | 15.8687 | 17.443 | 18.1171 | 18.7797 |
| 1000 | 16.4227 | 34.4597 | 32.6983 | 32.5293 |
| 3375 | 48.6366 | 48.0367 | 63.5206 | 58.5563 |
| 5832 | 92.9284 | 89.1931 | 106.1486 | 88.4022 |
| 8000 | 141.6843 | 79.0248 | 100.7791 | 99.6324 |