ANALYSIS OF NON PARALLEL

|  |  |  |
| --- | --- | --- |
| SIZE | MERGE SORT | QUICK SORT |
| 2^11 | 0.75624 | 0.654723 |
| 2^13 | 0.809915 | 0.688818 |
| 2^15 | 0.964524 | 1.06577 |
| 2^17 | 1.09194 | 1.28139 |
|  |  |  |
|  |  |  |

From this we see that merge sort is slower for smaller sized while quick sort is quicker but for larger sizes quick sort is slow while merge sort is much faster.

ANALYSIS OF PARALLEL

|  |  |  |  |
| --- | --- | --- | --- |
| Quick sort | | | |
| 2^11 | | | |
|  | 2^9 | 2^4 | 2^7 |
| 1 machine cluster | 0.00604437 | 0.00590459 | 0.00627414 |
| 2 machine cluster | 0.00804044 | 0.00432755 | 0.0056319 |
|  |  |  |  |
| 2^13 | | | |
| 1 machine cluster | 0.050062 | 0.0607567 | 0.0367726 |
| 2 machine cluster | 0.0558261 | 0.0477156 | 0.0562664 |
| 2^15 | | | |
| 1 machine cluster | 0.339741 | 0.273911 | 0.332312 |
| 2 machine cluster | 0.318194 | 0.276148 | 0.321502 |
| 2^17 |  |  |  |
| 1 machine cluster | 0.468137 | 0.518415 | 0.524512 |
| 2 machine cluster | 0.444064 | 0.441873 | 0.431682 |
| MERGE SORT | | | |
| 1 machine cluster |  | 0.00744791 | 0.00727254 |
| 2 machine cluster | 0.00911872 | 0.0075052 | 0.0078858 |
|  |  |  |  |
| 2^13 |  |  |  |
| 1 machine cluster | 0.0206347 | 0.03372770 | 0.0339972 |
| 2 machine cluster | 0.0345541 | 0.0304547 | 0.0226579 |
| 2^15 |  |  |  |
| 1 machine cluster | 0.137393 | 0.102474 | 0.138235 |
| 2 machine cluster | 0.0967972 | 0.138088 | 0.0952432 |
| 2^17 |  |  |  |
| 1 machine cluster | 0.252773 | 0.309646 | 0.268566 |
| 2 machine cluster | 0.272958 | 0.233128 | 0.216477 |
|  |  |  |  |

We can see that the trend is varying when it comes to gflops in 1 cluster machine and 2 cluster machines. In most cases the number of gflops is lower inn 2 cluster machines while it is more in 1 cluster machine.