|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| N | P | Serial execution time (microseconds) (P=1) | Parallel execution time (microseconds) | SpeedUP |
| 64 | 2 | 2431 | 3194 | 0.761115 |
| 128 | 4 | 6303 | 6474 | 0.973587 |
| 256 | 8 | 18437 | 18823 | 0.979493 |
| 512 | 16 | 66814 | 70822 | 0.943407 |
| 640 | 24 | 104090 | 109548 | 0.950177 |
| 768 | 32 | 148688 | 153061 | 0.97143 |
| 1000 | 64 | 246905 | 217826 | 1.133496 |

As the Matrix Size is increased along with the thread size you can notice that speed up is increasing at last the speed has exceed 1 for size 1000. In the Parallel execution the number matrix is divided in to the blocks and each block is processed by a sperate thread.

For the Smaller marix Size the parallel execution doesn’t fit but for the larger matrix the execution time is quite less since more than one core can perform the operation and the given task is divided among the multiple threads.

Though the parallel execution consumes some time for dividing the data and combining the results but the it is less time consuming if we work on large data sets.