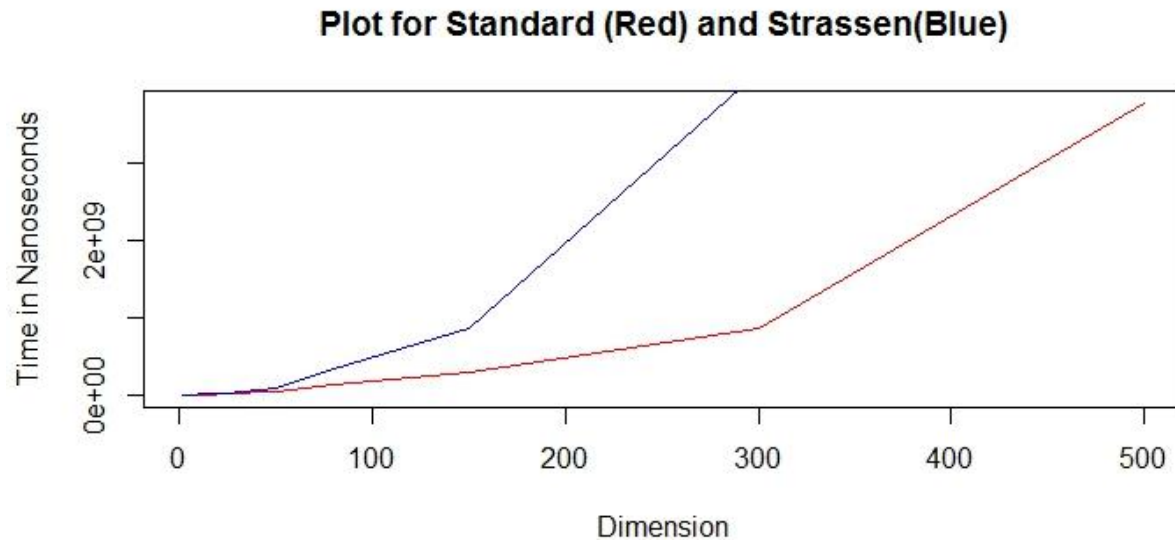


Problem 2 - 2:4

Please refer JAVA programs for Problem 2 to 2.4.

Problem 2.5

Plot for Time taken by Standard Matrix Multiplication and Strassen Algorithm in Nanoseconds



From Graph, We can say that Time taken for Standard and Strassen's Algorithm is same when dimension is close to 40.

- Strassen takes less time for higher dimension when compared to Standard matrix multiplication.
- Time is more or less similar when dimension is between 0 to 50.

Strassen's Algorithm can be improved by tuning i.e.:-

- Morton order that is based on a quad-tree decomposition of the matrix.
- select the recursion truncation point to minimize padding without affecting the performance of the algorithm.

Inefficiency of Strassen's Algorithm

- when we encounter matrices with one or more dimensions of odd size.
- Strassen's construction is no longer advantageous when recursion truncation point is reached.

List of References

1. <http://www.sanfoundry.com/java-program-strassen-algorithm/>
2. <https://users.cs.duke.edu/~alvy/papers/sc98/>