Name: Adwait Purao
Uid: 2021300101 Batch: B2

Strassen's matrix multiplication is a fast algorithm for multiplying two matrices using a divide-and-conquer approach. The algorithm recursively breaks down the matrices into smaller submatrices, computes the products of these submatrices, and then combines the results to obtain the final matrix product. Strassen's algorithm is faster than the traditional matrix multiplication algorithm for large matrices, but has a higher constant factor and is only faster asymptotically.

Matrix chain multiplication is an algorithm for computing the most efficient way to multiply a sequence of matrices. The problem is to find the order in which to perform the matrix multiplications, in order to minimize the total number of scalar multiplications needed. This problem arises in many areas of computer science and engineering, such as optimizing database queries, parsing context-free grammars, and numerical analysis. The solution involves dynamic programming, where we build up a table of partial solutions and use these to compute the optimal solution.