**Lab 1: Design and Analysis of Matrix Multiplication**

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**BSCS-5C**

**Introduction**

Our objective is to multiply two matrices together by two different methods Strassen Multiplication and Iterative Multiplication and see which the advantages and disadvantages of the two.

**Approach**

C++ language is going to be used for this program. Random No. generation has been used and the program is compatible for 2x2 matrices. Both methods have their own separate classes. Switch operator has been used so that user has choice between two.

**How to Run:**

1. Run the source file
2. Select 1 or 2 for Strassen Multiplication or Iterative Multiplication respectively.
3. Random numbers will be generated for both matrices.
4. The resultant will be displayed in the end.

**Analysis:**

We can see that Strassen Multiplication has less multiplications than Iterative and uses less time. Hence, the time complexity O(N^log7) of Strassen and O(N^3) of Iterative.

**GitHub Link:**

https://github.com/mohidmk7/MatrixMultiplication