CSC210 Advanced Algorithm and Design Lab
06/02/2023

Time: 1 Hour

Instructions

1. Write the programs with proper comments and indentation
2. Create a directory <Admission Number>_<Date> [21JEXXXX_090122], copy all the files into it and **upload in Google Class Room**
3. Submit a single C/C++ source file
4. Do not use STL calls
5. **Each program should start with these comment lines:**

```
/*
Name:
ID No:
*/
```

Q1. Consider two matrices A and B of size n*n. Write following two algorithms for matrix multiplication --- (i). divide and conquer strategy for multiplication, and (ii). Strassen's multiplication strategy. Also print the number of multiplication operations done in two different approaches.

Write two functions *Divide&Conquer and Strassen* that take the dimension of the matrix, two matrices as input and print the multiplied matrix as output. The functions should compute the number of multiplication operations in two cases. [Additional inputs might be taken with justification] [40+10]

The **main()** function:

1. Take input (size of matrix) from user. Generate two matrices of same size and fill it by taking input from user. [10]
2. Call *Divide&Conquer and Strassen* to find out the multiplied matrix and number of multiplication operations. The number of operations should be computed in code not by formula. [40] + [50]