
Assignment-I
National Institute of Technology Silchar
Due date: 25 August 2023

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Subject Code: CS-201
Semester: 3rd
Course: B.Tech

Subject: Data Structures
Department: CSE
Section: A

Answers should be submitted in a scanned copy of the handwritten format. Also, submit the source code of the corresponding questions in a zip folder.

Write functions for all questions given below.

1. Write a program to add two very large numbers. Also, analyze the time and space complexity. Each number is represented as a string, and its upper limit is 1024 digits.
2. Write a program to multiply two very large numbers. Also, analyze the time and space complexity. Each number is represented as a string, and its upper limit is 1024 digits.
3. Write a program to divide two very large numbers. Also, analyze the time and space complexity. Each number is represented as a string, and its upper limit is 1024 digits.
4. Write a program to divide $\frac{x}{y}$ up to n^{th} decimal point. Also, analyze the time and space complexity. For instance, x=22, y=7, and n=1000.
5. Write a program to implement the power function for double without using the pow library function. You can use math.h but cannot use the pow function.