LAB TASK 11 - OVERLOADING-03

Problem 1:

The C++ string class (in header <string>) overloads these operators to work on string objects:
String comparison (==, !=, >, <, >=, <=): For example, you can use str1 == str2 to compare the contents of two string objects.
Stream insertion and extraction (<<, >>): For example, you can use cout << str1 and cin >> str2 to output/input string objects.
Strings concatenation (+, +=): For example, str1 + str2 concatenates two string objects to produce a new string object; str1 += str2 appends str2 into str1.
Character indexing or subscripting []: For example, you can use str[n] to get the char at index n; or str[n] = c to modify the char at index n. Take note that [] operator does not perform index-bound check, i.e., you have to ensure that the index is within the bounds.
Assignment (=): For example, str1 = str2 assigns str2 into str1.

You are required to implement all mentioned functionalities using operator overloading in a header file and finally include that header file in you implementation/cpp file and use it.

Problem 2:

Implement 3-dimensional matrix class, and overload the Sum '+' operator to add two matrices. Your solution will have following methods:

i. Default Constructor
ii. Parameterized Constructor
iii. Destructor
iv. To insert data in matrix
v. Overload + operator to add two matrix objects