

# C-DAC MUMBAI

## Object Oriented Programming Using C++

### Assignment-3

Q1. Design a String class with the following requirements:

- Data members:
  - int length;
  - char \*str;
- Member functions:
  - A constructor that initializes an empty string.
  - A destructor to release any dynamically allocated memory.
  - A member function named acceptRecord that accept string.
  - A member function named printRecord that prints string.

Q2. Create a C++ class named Matrix to represent a two-dimensional matrix of integers. The class should have the following characteristics:

Private Data Members:

- int row: The number of rows in the matrix.
- int col: The number of columns in the matrix.
- int \*\*arr: A dynamically allocated two-dimensional array to store the matrix elements.

Public Member Functions:

- Constructor: Initialize the matrix with a given number of rows and columns. The constructor should dynamically allocate memory for the matrix.
- Destructor: Deallocate the memory used by the matrix to prevent memory leaks.
- void acceptRecord(): Allow the user to input values for each element of the matrix.
- void printRecord(): Display the matrix elements in a human-readable format.