North South University
Department of Electrical and Computer Engineering
Semester: Summer 2025 | **Section:** 12
Course: CSE225L (Data Structures and Algorithms)
Quiz – 1
Time: 30 Minutes | **Marks:** 10

---

1. Modify the header and source files. Add a member function `void allocate(int rows, int cols)` that allows changing the size of the array. Ensure that memory is not leaked.

2. In the driver file, include the `charArr` class, create a `charArr` object, take user input (three random student names) for the array values, and print the values in the array.

```
#ifndef CHARARR_H

#define CHARARR_H


class charArr

{

private:

    char **data;

    int rows, cols;


public:

    charArr();

    charArr(int rows, int cols);

    ~charArr();

    void setValue(int i, int j, char value);

    char getValue(int i, int j);

};


#endif // CHARARR_H

#include "charArr.h"
```

```cpp
#include <iostream>

using namespace std;


charArr::charArr()

{

    data = NULL;

    rows = 0;

    cols = 0;

}


charArr::charArr(int rows, int cols)

{

    data = new char *[rows];

    for (int i = 0; i < rows; i++)

    {

        data[i] = new char[cols];

    }

    this->rows = rows;

    this->cols = cols;

}


void charArr::setValue(int i, int j, char value)

{

    data[i][j] = value;

}


char charArr::getValue(int i, int j)

{

    return data[i][j];
```

```cpp
}


charArr::~charArr()
{
    for (int i = 0; i < rows; i++)
    {
        delete[] data[i];
    }
    delete[] data;
}
```