



LAB-1

Submitted to :

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Course Name:

Internet Application Development (CIS-305L)

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Write code using C/C++ which performs following tasks:

- a) **Prompt the user to enter a number of columns?**
- b) **Prompt the user to enter a number of rows?**
- c) **Get data cell by cell from user using a loop?**
- d) **Generate an html page to display the above data in a table?**
- e) **Store the page in a folder on the desktop.**

Steps to code:

1. **User Input:** The program prompts the user to enter the number of columns and the number of rows for the table.
2. **Dynamic Memory Allocation:** The program dynamically allocates memory to store the table data based on the user-provided number of rows and columns.
3. **HTML Generation:** The program generates HTML code to represent the table based on the data entered by the user.
4. **File Output:** The generated HTML code is written to a file named "output.html".
5. **Memory Deallocation:** Finally, the program deallocates the dynamically allocated memory to prevent memory leaks.

Code:

```
#include <iostream>
#include <fstream>
using namespace std;
int main() {
    int rows, cols;
    // Prompt the user to enter number of columns
    cout << "Enter the number of columns: ";
    cin >> cols;
    // Prompt the user to enter number of rows
    cout << "Enter the number of rows: ";
    cin >> rows;
```

```

// Get data cell by cell from user using a loop
string** data = new string*[rows];
for (int i = 0; i < rows; ++i) {
    data[i] = new string[cols];
    for (int j = 0; j < cols; ++j) {
        cout << "Enter data for cell [" << i << "][" << j << "]: ";
        cin >> data[i][j];
    }
}
// Generate HTML page
ofstream htmlFile("output.html");
if (htmlFile.is_open()) {
    htmlFile << "<!DOCTYPE html>\n";
    htmlFile << "<html>\n";
    htmlFile << "<head>\n";
    htmlFile << "<style>\n";
    htmlFile << "table {\n";
    htmlFile << " font-family: arial, sans-serif;\n";
    htmlFile << " border-collapse: collapse;\n";
    htmlFile << " width: 100%;\n";
    htmlFile << " }\n";
    htmlFile << "td, th {\n";
    htmlFile << " border: 1px solid #dddddd;\n";
    htmlFile << " text-align: left;\n";
    htmlFile << " padding: 8px;\n";
    htmlFile << " }\n";
    htmlFile << "tr:nth-child(even) {\n";

```

```

htmlFile << " background-color: #dddddd;\n";
htmlFile << " }\n";
htmlFile << "</style>\n";
htmlFile << "</head>\n";
htmlFile << "<body>\n";
htmlFile << "\n";
htmlFile << "<h2>HTML Table</h2>\n";
htmlFile << "\n";
htmlFile << "<table>\n";
htmlFile << " <tr>\n";
for (int j = 0; j < cols; ++j) {
    htmlFile << " <th>Column " << j+1 << "</th>\n";
}
htmlFile << " </tr>\n";
for (int i = 0; i < rows; ++i) {
    htmlFile << " <tr>\n";
    for (int j = 0; j < cols; ++j) {
        htmlFile << " <td>" << data[i][j] << "</td>\n";
    }
    htmlFile << " </tr>\n";
}
htmlFile << "</table>\n";
htmlFile << "\n";
htmlFile << "</body>\n";
htmlFile << "</html>\n";
htmlFile.close();
cout << "HTML file generated successfully!\n";

```

```

} else {
    cout << "Unable to open file for writing.\n";
// Deallocate memory
for (int i = 0; i < rows; ++i) {
    delete[] data[i];
}
delete[] data;
return 0;
}

```

OUTPUT:

```

Enter the number of columns: 3
Enter the number of rows: 4
Enter data for cell [0][0]: Ali
Enter data for cell [0][1]: Ahmed
Enter data for cell [0][2]: Asad
Enter data for cell [1][0]: Noman
Enter data for cell [1][1]: Rizwan
Enter data for cell [1][2]: Bilal
Enter data for cell [2][0]: Awais
Enter data for cell [2][1]: Aslam
Enter data for cell [2][2]: Usman
Enter data for cell [3][0]: Abdullah
Enter data for cell [3][1]: Anas
Enter data for cell [3][2]: Noor
HTML file generated successfully!

```

HTML Table

Column 1	Column 2	Column 3
Ali	Ahmed	Asad
Noman	Rizwan	Bilal
Awais	Aslam	Usman
Abdullah	Anas	Noor