

Implementation IAD Lab 1

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//03-3-1-044-2022
//generated_table.cpp

#include <iostream>
#include <fstream>
#include <string>
#include <cstdlib>
#include <sys/stat.h>

using namespace std;

int main() {
    int rows, columns;
    // a) Prompt the user to enter number of columns?
    cout << "Enter number of columns: ";
    cin >> columns;
    // b) Prompt the user to enter number of rows?
    cout << "Enter number of rows: ";
    cin >> rows;

    cin.ignore();
    string headers[columns];
    cout << "\nEnter names for each column (these will be
table headers):\n";
    for (int i = 0; i < columns; ++i) {
        cout << "Enter name for column " << i + 1 << ": ";
        getline(cin, headers[i]);
    }

    // c) Get data cell by cell from user using a loop?
    string tableData[rows][columns];
    cout << "\nEnter data for each cell:\n";
    for (int i = 0; i < rows; ++i) {
        for (int j = 0; j < columns; ++j) {
            cout << "Enter data for cell [" << i + 1 <<
"][" << j + 1 << "]: ";
            getline(cin, tableData[i][j]);
        }
    }

    // d) Generate an html page to display above data in a
table?
    string html = "<!DOCTYPE
html>\n<html>\n<head>\n<style>\n"
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        "table {\n  font-family: arial, sans-
        serif;\n  border-collapse: collapse;\n  width:
        100%;\n}\n"
        "td, th {\n  border: 1px solid
        #dddddd;\n  text-align: left;\n  padding: 8px;\n}\n"
        "tr:nth-child(even) {\n  background-
        color: #dddddd;\n}\n"
        "</style>\n</head>\n<body>\n\n"
        "<h2>HTML Table</h2>\n\n"
        "<table>\n  <tr>\n";

    for (int i = 0; i < columns; ++i) {
        html += "    <th>" + headers[i] + "</th>\n";
    }
    html += "  </tr>\n";

    for (int i = 0; i < rows; ++i) {
        html += "  <tr>\n";
        for (int j = 0; j < columns; ++j) {
            html += "    <td>" + tableData[i][j] +
"</td>\n";
        }
        html += "  </tr>\n";
    }

    html += "</table>\n\n</body>\n</html>";

    // e)Store the page in a folder on desktop.
    string homePath = getenv("HOME");
    string folderPath = homePath +
"/Desktop/HTML_Table_Output";

    mkdir(folderPath.c_str(), 0777);

    string fullPath = folderPath +
"/generated_table.html";

    ofstream outFile(fullPath);
    if (outFile.is_open()) {
        outFile << html;
        outFile.close();
        cout << "\nHTML file generated at: " << fullPath
<< endl;
    } else {
        cout << "Error writing the HTML file!" << endl;
    }

    return 0;
}

```