CSCI 381 (C++)

Project 1.3 Threshold

Essam Yousry

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Algorithm Steps for Threshold:

Step 0: inFile 🡨 argv[1]

Step 1: read header from inFile

Step 2: ask user for threshold value

Step 3: generate output file name

Step 4: open output file

Step 5: write numRows, numCols, 0, 1 to ouput file

Step 6: process inFile from left to right and top to bottom

Step 7: repeat step 6 until the inFile is empty

Step 8: close input and output file

Source Code

#include <iostream>

#include <fstream>

#include <string>

using namespace std;

int main (int argc, char \*argv[])

{

    int vars[4], row, col, min, max;

    ifstream myfile;

    myfile.open(argv[1]);

    for(int i = 0; i < 4; i++)

        myfile >> vars[i];

    cout << endl;

    row = vars[0];

    col = vars[1];

    min = vars[2];

    max = vars[3];

    cout << row << endl;

    cout << col << endl;

    cout << min << endl;

    cout << max << endl;

    string fileName = argv[1];

    string fileNameWithoutExtension = fileName.substr(0, fileName.rfind("."));

    int value;

    cout << "Please Enter a Threshold Value: ";

    cin >> value;

    ofstream myfile2;

    myfile2.open(string(fileNameWithoutExtension + "\_thr\_" + to\_string(value) + “.txt”));

    myfile2 << row;

    myfile2 << ' ';

    myfile2 << col;

    myfile2 << ' ';

    myfile2 << "0 1";

    myfile2 << endl;

    int \*\*data = new int\*[row];

    for (int i = 0; i < row; ++i)

        data[i] = new int [col];

    for (int i = 0; i < row; i++){

        for (int j = 0; j < col; j++){

            myfile >> data[i][j];

            if (data[i][j] >= value){

                myfile2 << 1;

                myfile2 << ' ';

            }

            else {

                myfile2 << 0;

                myfile2 << ' ';

            }

        }

        myfile2 << endl;

    }

    for (int i = 0; i < row; i++){

        delete data[i];

    }

    delete[] data;

    myfile.close();

    myfile2.close();

    return 0;

}

Output







