CV Programming Language: CPP

Mock Final 1 Mock Final 1

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**Source Code:**

#include <iostream>

#include <string>

#include <fstream>

using namespace std;

class Image{

public:

int numRows;

int numCols;

int minVal;

int maxVal;

int\*\* imageAry;

void loadImageAry(ifstream& inFile){

imageAry = new int\*[numRows];

for(int i = 0; i < numRows; i++){

imageAry[i] = new int[numCols];

}

int input;

for(int i = 0; i < numRows; i++){

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

inFile >> input;

imageAry[i][j] = input;

}

}

}

void sumRows(ofstream& outFile1){

int sum = 0;

for(int row = 0; row < numRows; row++){

outFile1 << row << ": ";

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

sum += imageAry[row][col];

}

outFile1 << sum << endl;

sum = 0;

}

}

void sumCols(ofstream& outFile2){

int sum = 0;

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

outFile2 << col << ": ";

for(int row = 0; row < numRows; row++){

sum += imageAry[row][col];

}

outFile2 << sum << endl;

sum = 0;

}

}

};

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

ifstream inFile(argv[1]);

ofstream outFile1(argv[2]);

ofstream outFile2(argv[3]);

Image image;

inFile >> image.numRows;

inFile >> image.numCols;

inFile >> image.minVal;

inFile >> image.maxVal;

image.loadImageAry(inFile);

// Header output

outFile1 << image.numRows << " " << image.numRows << " " << image.minVal << " " << image.maxVal << endl;

outFile2 << image.numRows << " " << image.numRows << " " << image.minVal << " " << image.maxVal << endl;

image.sumRows(outFile1);

image.sumCols(outFile2);

inFile.close();

outFile1.close();

outFile2.close();

}

OUTPUTS

A screenshot of a cell phone

Description automatically generatedA screenshot of a social media post

Description automatically generated