

Kendrick Kwok

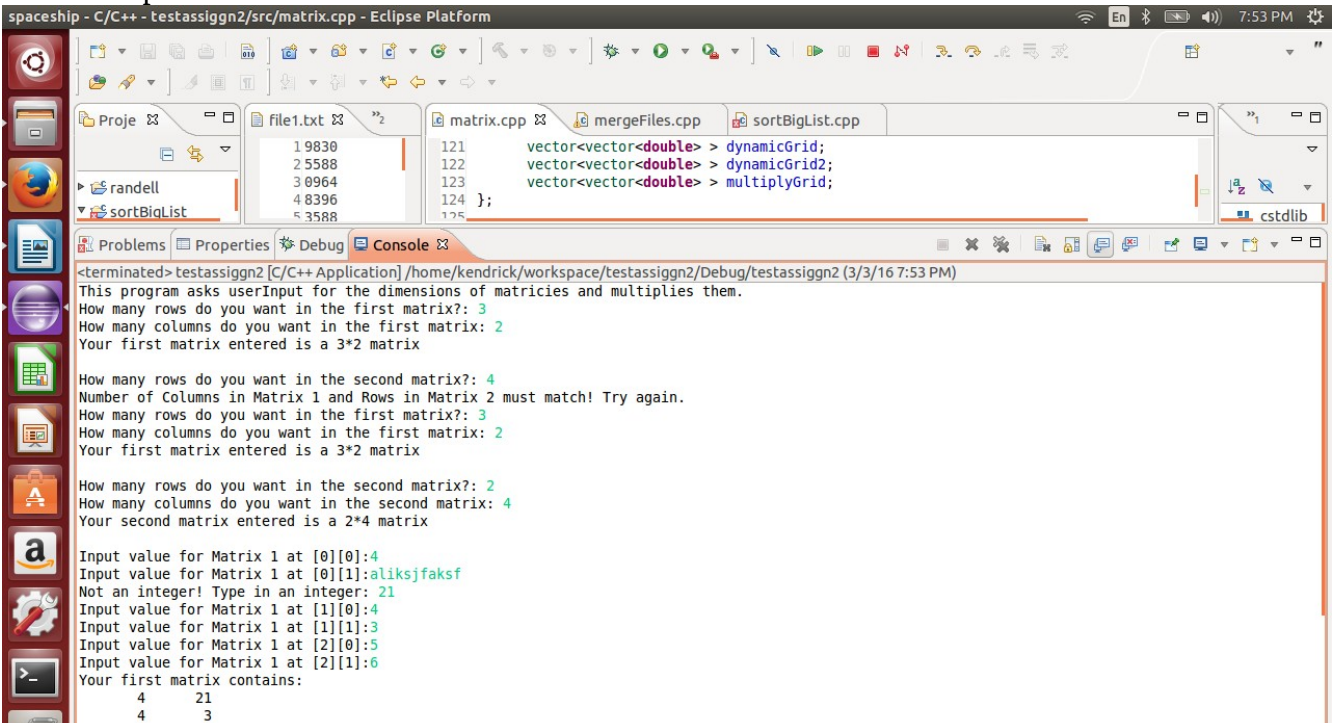
912351666

Assignment #2

Potter

I used Eclipse 3.8.1 – 5.1 on a Linux computer.

#1: The first program asks for user input to create the rows and columns for the first and second matrixes. Exception handling occurs when the columns of the first matrix and the rows of the second matrix does not match. User Input is needed to insert the values into the first and second matrix, and the third matrix printed is the result of the first matrix multiplied by the second matrix. Below should be the compilation.



```
spaceship - C/C++ - testassiggn2/src/matrix.cpp - Eclipse Platform

file1.txt  matrix.cpp  mergeFiles.cpp  sortBigList.cpp

19830
25588
30964
48396
53588

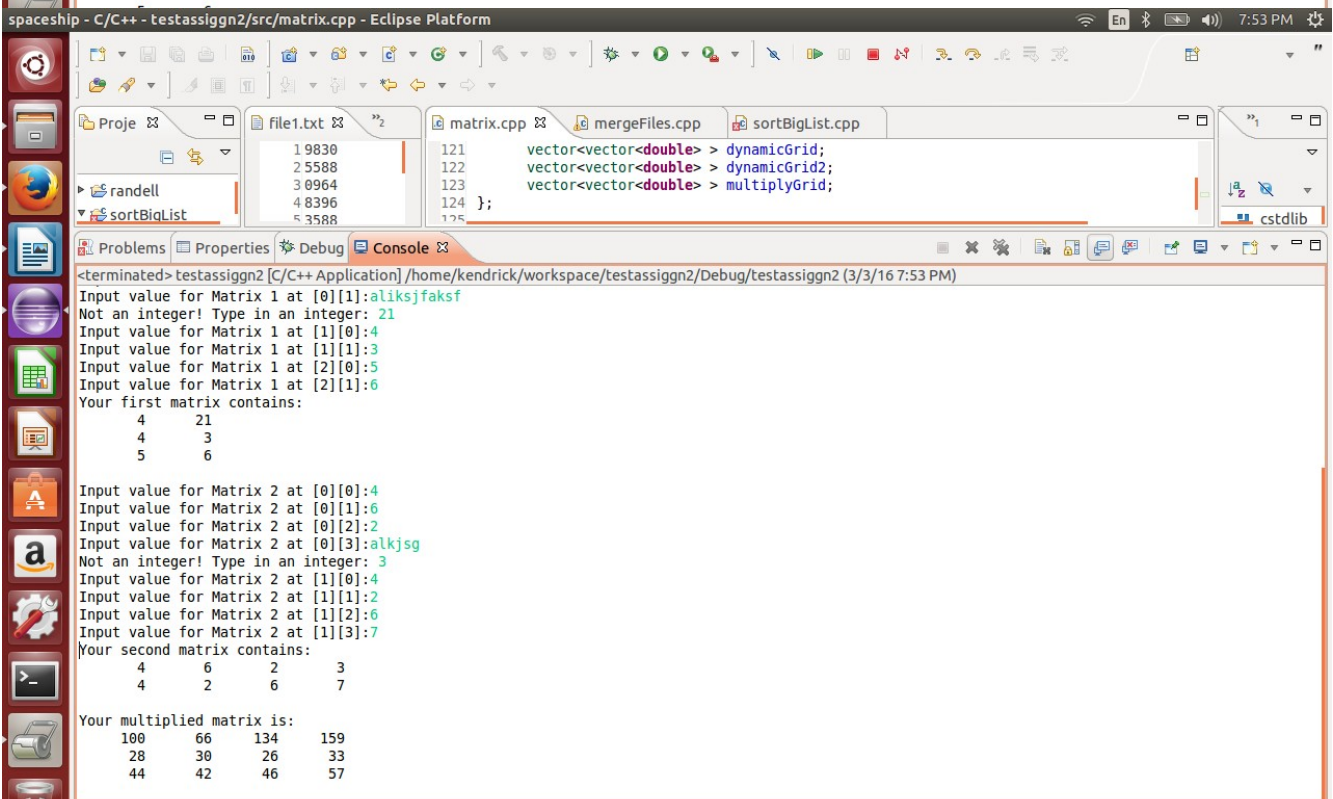
121  vector<vector<double>> > dynamicGrid;
122  vector<vector<double>> > dynamicGrid2;
123  vector<vector<double>> > multiplyGrid;
124  };
125

<terminated> testassiggn2 [C/C++ Application] /home/kendrick/workspace/testassiggn2/Debug/testassiggn2 (3/3/16 7:53 PM)
This program asks userInput for the dimensions of matrices and multiplies them.
How many rows do you want in the first matrix?: 3
How many columns do you want in the first matrix: 2
Your first matrix entered is a 3*2 matrix

How many rows do you want in the second matrix?: 4
Number of Columns in Matrix 1 and Rows in Matrix 2 must match! Try again.
How many rows do you want in the first matrix?: 3
How many columns do you want in the first matrix: 2
Your first matrix entered is a 3*2 matrix

How many rows do you want in the second matrix?: 2
How many columns do you want in the second matrix: 4
Your second matrix entered is a 2*4 matrix

Input value for Matrix 1 at [0][0]:4
Input value for Matrix 1 at [0][1]:aliksxfaksf
Not an integer! Type in an integer: 21
Input value for Matrix 1 at [1][0]:4
Input value for Matrix 1 at [1][1]:3
Input value for Matrix 1 at [2][0]:5
Input value for Matrix 1 at [2][1]:6
Your first matrix contains:
4      21
4      3
```



```
spaceship - C/C++ - testassiggn2/src/matrix.cpp - Eclipse Platform

file1.txt  matrix.cpp  mergeFiles.cpp  sortBigList.cpp

19830
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121  vector<vector<double>> > dynamicGrid;
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<terminated> testassiggn2 [C/C++ Application] /home/kendrick/workspace/testassiggn2/Debug/testassiggn2 (3/3/16 7:53 PM)
Input value for Matrix 1 at [0][1]:aliksxfaksf
Not an integer! Type in an integer: 21
Input value for Matrix 1 at [1][0]:4
Input value for Matrix 1 at [1][1]:3
Input value for Matrix 1 at [2][0]:5
Input value for Matrix 1 at [2][1]:6
Your first matrix contains:
4      21
4      3
5      6

Input value for Matrix 2 at [0][0]:4
Input value for Matrix 2 at [0][1]:6
Input value for Matrix 2 at [0][2]:2
Input value for Matrix 2 at [0][3]:alkjsg
Not an integer! Type in an integer: 3
Input value for Matrix 2 at [1][0]:4
Input value for Matrix 2 at [1][1]:2
Input value for Matrix 2 at [1][2]:6
Input value for Matrix 2 at [1][3]:7
Your second matrix contains:
4      6      2      3
4      2      6      7

Your multiplied matrix is:
100    66    134    159
28     30     26     33
44     42     46     57
```

#2: The program asks the user to type and open two files, each with numbers increasing in order. As each file is parsed, they grab the least number, input it to a third out file called merge, and keeps looping until one of the file is parsed. After, all the numbers of one file is gone, the other file has all the largest numbers, so the whole file with numbers in it is then parsed into the out file. Below is the desired result.

The screenshot shows the Eclipse IDE with the following components:

- Project Explorer:** Lists project files including arrayMaxMin, helpo, inputOutput, mergeFiles, randell, sortBigList, testassiggn2, testProj, and waaa.
- Source Editor:** Displays the code for `mergeFiles.cpp`. The code prompts the user for two files, reads their contents, and merges them into a new file. It includes error handling for file opening.
- Console:** Shows the execution output. It indicates that the program merged two files into one new file. It lists the numbers from the input files and the resulting merged file. The console output is as follows:
 

```
<terminated> mergeFiles [C/C++ Application] /home/kendrick/workspace/mergeFiles/Debug/mergeFiles (3/3/16 7:34 PM)
This program merges two files into one new file.
What is folder #1 you want to open? (include .txt): test1.txt
What is folder #2 you want to open? (include .txt): noFilePresent.txt
File cannot open. Please enter another file: test2.txt
You just put from File #1 and File #2 1 in mergedFile.txt!
You just put from File #1 and File #2 2 in mergedFile.txt!
You just put from File #1 and File #2 4 in mergedFile.txt!
You just put from File #2 5 in mergedFile.txt!
You just put from File #1 and File #2 6 in mergedFile.txt!
You just put from File #2 7 in mergedFile.txt!
You just put from File #2 8 in mergedFile.txt!
You just put from File #1 and File #2 9 in mergedFile.txt!
You just put from File #2 22 in mergedFile.txt!
You just put from File 2 88 in mergedFile.txt!
Merge complete!
Your newly merged file is under mergedFile.txt!
```

The screenshot shows the `mergedFile.txt` file in a text editor. The file contains the following numbers, which are the result of merging the two input files:

```
1
1
2
2
4
4
5
6
6
7
8
9
9
22
36
88
```

The text editor interface includes a menu bar with options like Open, Save, Undo, and a status bar at the bottom showing "Plain Text", "Tab Width: 8", "Ln 1, Col 1", and "INS".

#3 : This program inserts the numbers from 7777 - 7781 starting the 6000'th line. Press F11 to compile, and you should see the numbers 7777-7781 inserted into the file using file1.txt. (file1.txt is hardcopied into the program).

spaceship - C/C++ - sortBigList/file1.txt - Eclipse Platform

Project Explorer: arrayMaxMin, helpo, inputOutput, mergeFiles, randell, sortBigList, testassiggn2, testProj, waaa

File1.txt (file1.txt):

```
5983 4877
5984 8259
5985 4384
5986 7973
5987 2501
5988 9722
5989 8078
5990 0392
5991 4046
5992 2446
5993 2840
5994 1749
5995 2744
5996 4892
5997 4259
5998 7721
5999 2656
6000 0592
6001 5616
6002 7108
6003 9193
6004 5075
6005 2849
6006 3321
6007 0472
6008 4413
6009 3464
```

sortBigList.cpp:

```
12 #include <ostream>
13 #include <vector>
14 #include <cstdlib>
15 #include <string>
16 using namespace std;
17
18 int main() {
19     vector <string> memoryVectorFirst;
20     vector <string> memoryVectorLast;
21     int byteCountRead1 = 0;
22     int byteCountRead2 = 29995;
23     int byteCountWrite = 29995;
24     int numberToBeInserted = 7777;
25     ifstream readfile;
26     ofstream writefile;
27     string fileName;
28     string line;
29
30
31     readfile.open("file1.txt");
32     //Store all numbers starting from [0] to line where you want to put
33     for (int counter=0; counter < 6000; counter++) {
34         // byteCountRead1 = 0;
35         readfile.seekg(byteCountRead1);
36         getline (readfile, line);
37         //Have to convert value into a string
38         memoryVectorFirst.push_back(line);
39     }
40 }
```

Console:

```
<terminated> sortBigList [C/C++ Application] /home/kendrick/workspace/sortBigList/Debug/sortBigList (3/3/16 7:37 PM)
The position is: 49996bytes
The position is: 49996bytes
You put into the vector 2 for keeping
The position is: -1bytes
No more bytes parsed.
Numbers have been successfully inserted into the file!
```

Status Bar: Writable Insert 6000:1

spaceship - C/C++ - sortBigList/file1.txt - Eclipse Platform

Project Explorer: arrayMaxMin, helpo, inputOutput, mergeFiles, randell, sortBigList, testassiggn2, testProj, waaa

File1.txt (file1.txt):

```
5986 7973
5987 2501
5988 9722
5989 8078
5990 0392
5991 4046
5992 2446
5993 2840
5994 1749
5995 2744
5996 4892
5997 4259
5998 7721
5999 2656
6000 7777
6001 7778
6002 7779
6003 7780
6004 7781
6005 0592
6006 5616
6007 7108
6008 9193
6009 5075
6010 2849
6011 3321
6012 0472
```

sortBigList.cpp:

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21     int byteCountRead1 = 0;
22     int byteCountRead2 = 29995;
23     int byteCountWrite = 29995;
24     int numberToBeInserted = 7777;
25     ifstream readfile;
26     ofstream writefile;
27     string fileName;
28     string line;
29
30
31     readfile.open("file1.txt");
32     //Store all numbers starting from [0] to line where you want to put
33     for (int counter=0; counter < 6000; counter++) {
34         // byteCountRead1 = 0;
35         readfile.seekg(byteCountRead1);
36         getline (readfile, line);
37         //Have to convert value into a string
38         memoryVectorFirst.push_back(line);
39     }
40 }
```

Console:

```
<terminated> sortBigList [C/C++ Application] /home/kendrick/workspace/sortBigList/Debug/sortBigList (3/3/16 7:38 PM)
The position is: 49996bytes
The position is: 49996bytes
You put into the vector 2 for keeping
The position is: -1bytes
No more bytes parsed.
```

Status Bar: Writable Insert 6000:1