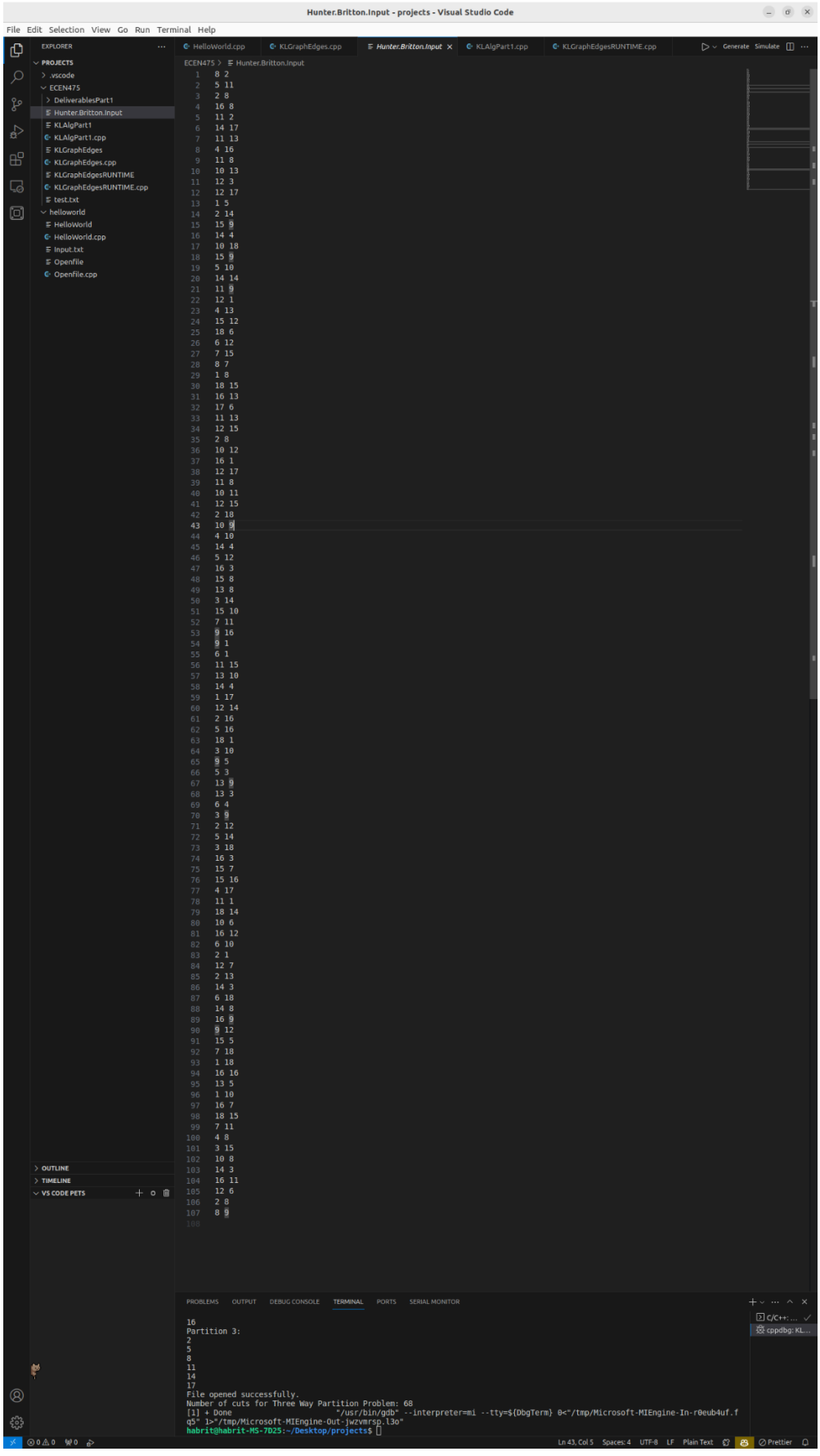
Hunter.Britton.Input - projects - Visual Studio Code
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ECEN475 > Hunter.Britton.Input
8 2
5 11
2 8
16 8
11 2
14 17
11 13
4 16
11 8
10 13
12 3
12 17
1 5
2 14
15 9
14 4
10 18
15 9
5 10
14 14
11 9
12 1
4 13
15 12
18 6
6 12
7 15
8 7
1 8
18 15
16 13
17 6
11 13
12 15
2 8
10 12
16 1
12 17
11 8
10 11
12 15
2 18
10 9
4 10
14 4
5 12
16 3
15 8
13 8
3 14
15 10
7 11
9 16
9 1
6 1
11 15
13 10
14 4
1 17
12 14
2 16
5 16
18 1
3 10
9 5
5 3
13 9
13 3
6 4
3 9
2 12
5 14
3 18
16 3
15 7
15 16
4 17
11 1
18 14
10 6
16 12
6 10
2 1
12 7
2 13
14 3
6 18
14 8
16 9
9 12
15 5
7 18
1 18
16 16
13 5
1 10
16 7
18 15
7 11
4 8
3 15
10 8
14 3
16 11
12 6
2 8
8 9
PROBLEMS
OUTPUT
DEBUG CONSOLE
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C/C++:...
cppdbg: KL...
16
Partition 3:
2
5
8
11
14
17
File opened successfully.
Number of cuts for Three Way Partition Problem: 68
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm} 0<"/tmp/Microsoft-MIEngine-In-r0eub4uf.fq5" 1>"/tmp/Microsoft-MIEngine-Out-jwzvmrsp.l3o"
habrit@habrit-MS-7D25:~/Desktop/projects$
Ln 43, Col 5
Spaces: 4
UTF-8
LF
Plain Text
Prettier

File input


KLGraphEdges.cpp - projects - Visual Studio Code
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Generate
Simulate
ECEN475 > KLGraphEdges.cpp > main()
#include <iostream>
#include <vector>
#include <random>
#include <ctime>
#include <fstream>
#include <ostream>
#include <iomanip>
#include <chrono>
#include <sstream>
using namespace std;
/*
Program to write code that randomly generates edges for the graph into a text file.
Input file format:
• Each of the following lines has two numbers that are indices of two nodes of an edge.
For example:
3 2
1 2
2 3
18 modules in the problem. So 18 nodes.
List randomly generated edges between 80 and 300.
Vertices are also called nodes.
Connected by edges.
So in the above example, there are 3 nodes and 2 edges.
*/
int main()
{
// Generate random number between 80 and 300
srand(time(NULL));
int randomNum = 80 + rand() % 221;
// num of nodes
int numNodes = 18;
// Need to have two nodes per line in file.
int outputFileNodes = randomNum * 2;
// Create vector to store the edges and indices.
vector<int> vec1;
for (int i = 0; i < outputFileNodes; i++)
{
vec1.push_back(1 + rand() % 18);
}
/*
Debugging code to print out the vector
cout << "Output of Vector is: " << endl;
for (int i = 0; i < randomNum; i++){
cout << "Index " << i << ": " << vec1[i] << endl;
}
cout << "Size of the vector is: " << vec1.size() << endl;
*/
// Create file to store the edges and indices.
ofstream MyFile;
MyFile.open("Hunter.Britton.Input");
// Write nodes to file
if (MyFile.is_open())
{
cout << "File is open" << endl;
}
for (int i = 0; i < outputFileNodes; i = i + 2)
{
MyFile << vec1[i] << " " << vec1[i + 1] << endl;
}
MyFile.close();
cout << "File is closed" << endl;
// Two Way Partion Problem Initial Solution
vector<int> partition1TWPP;
vector<int> partition2TWPP;
for (int i = 1; i <= 18; i++)
{
if (i % 2 == 0)
{
partition1TWPP.push_back(i);
}
else
{
partition2TWPP.push_back(i);
}
}
cout << "Partition 1: " << endl;
for (int i = 0; i < partition1TWPP.size(); i++)
{
cout << partition1TWPP[i] << endl;
}
cout << "Partition 2: " << endl;
for (int i = 0; i < partition2TWPP.size(); i++)
{
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS SERIAL MONITOR
16
Partition 3:
2
5
8
11
14
17
File opened successfully.
Number of cuts for Three Way Partition Problem: 68
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm} 0<"/tmp/Microsoft-MIEngine-In-r0eub4uf.fq5" 1>"/tmp/Microsoft-MIEngine-Out-jwzvmrsp.l3o"
habrit@habrit-MS-7D25:~/Desktop/projects$
C/C++: ...
cppdbg: KL...
Ln 336, Col 2 Spaces: 4 UTF-8 LF C++ Linux Prettier


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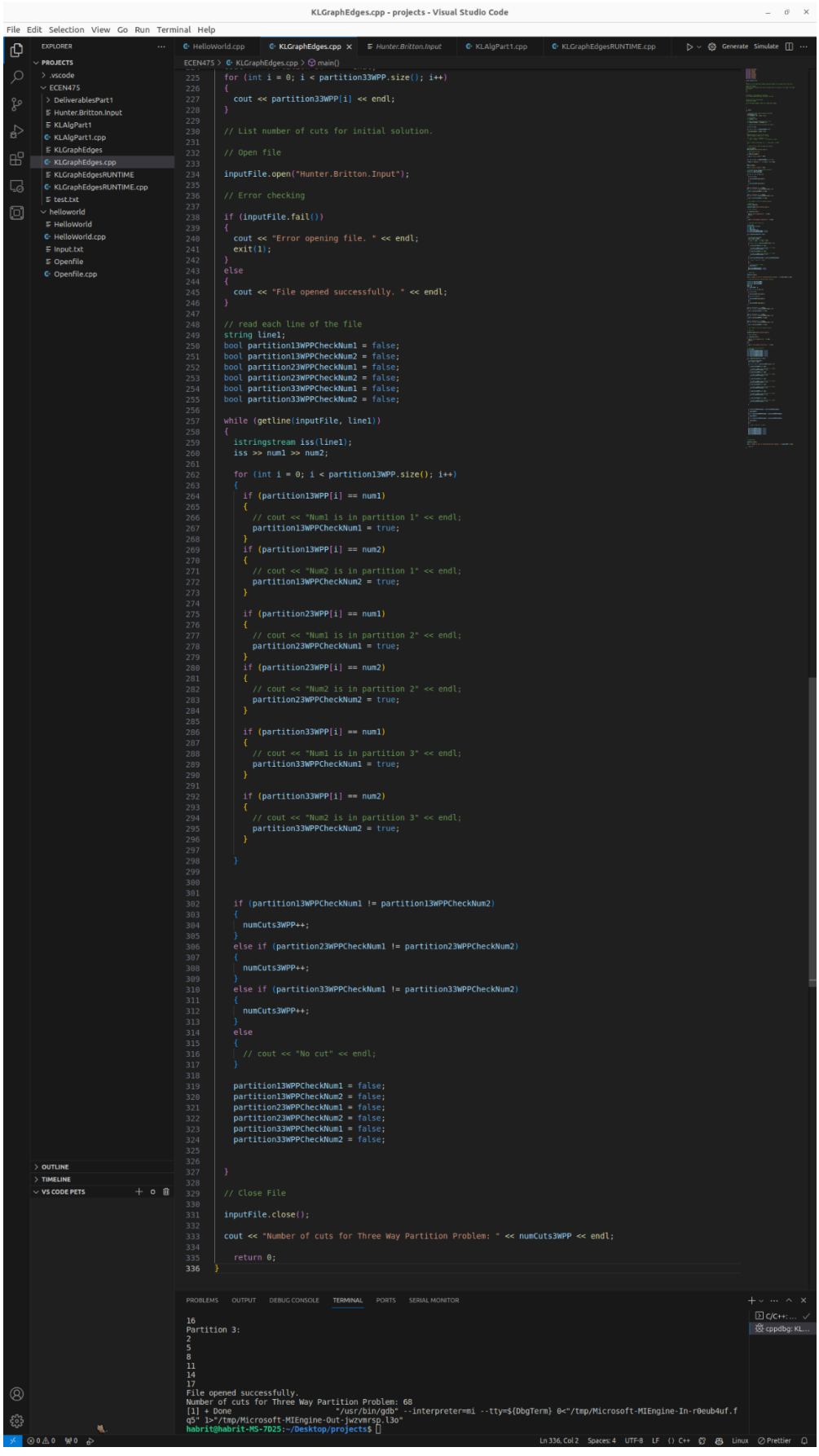
Partition 3:
2
5
8
11
14
17
File opened successfully.
Number of cuts for Three Way Partition Problem: 68
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm} 0<"/tmp/Microsoft-MIEngine-In-r0eub4uf.f
q5" 1>"/tmp/Microsoft-MIEngine-Out-1w2vmrsp.l3o"
habrit@habrit-MS-7D25:~/Desktop/projects$
Ln 336, Col 2
Spaces: 4
UTF-8
LF
C++
Linux
Prettier


KLGraphEdges.cpp - projects - Visual Studio Code
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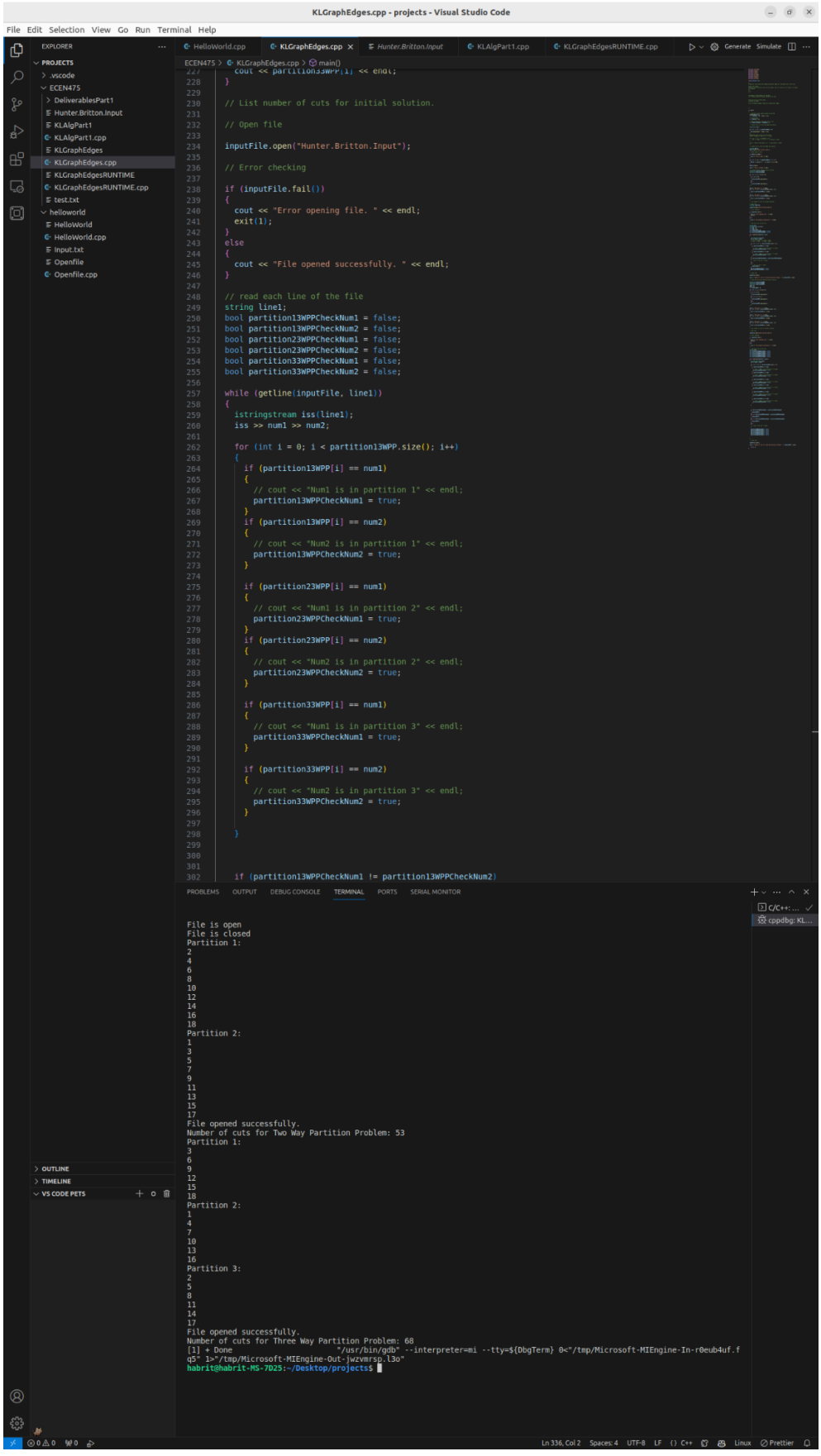
ECEN475 > KLGraphEdges.cpp > main()
for (int i = 0; i < partition33WPP.size(); i++)
{
cout << partition33WPP[i] << endl;
}
// List number of cuts for initial solution.
// Open file
inputFile.open("Hunter.Britton.Input");
// Error checking
if (inputFile.fail())
{
cout << "Error opening file. " << endl;
exit(1);
}
else
{
cout << "File opened successfully. " << endl;
}
// read each line of the file
string line1;
bool partition13WPPCheckNum1 = false;
bool partition13WPPCheckNum2 = false;
bool partition23WPPCheckNum1 = false;
bool partition23WPPCheckNum2 = false;
bool partition33WPPCheckNum1 = false;
bool partition33WPPCheckNum2 = false;
while (getline(inputFile, line1))
{
istringstream iss(line1);
iss >> num1 >> num2;
for (int i = 0; i < partition13WPP.size(); i++)
{
if (partition13WPP[i] == num1)
{
// cout << "Num1 is in partition 1" << endl;
partition13WPPCheckNum1 = true;
}
if (partition13WPP[i] == num2)
{
// cout << "Num2 is in partition 1" << endl;
partition13WPPCheckNum2 = true;
}
if (partition23WPP[i] == num1)
{
// cout << "Num1 is in partition 2" << endl;
partition23WPPCheckNum1 = true;
}
if (partition23WPP[i] == num2)
{
// cout << "Num2 is in partition 2" << endl;
partition23WPPCheckNum2 = true;
}
if (partition33WPP[i] == num1)
{
// cout << "Num1 is in partition 3" << endl;
partition33WPPCheckNum1 = true;
}
if (partition33WPP[i] == num2)
{
// cout << "Num2 is in partition 3" << endl;
partition33WPPCheckNum2 = true;
}
}
if (partition13WPPCheckNum1 != partition13WPPCheckNum2)
{
numCuts3WPP++;
}
else if (partition23WPPCheckNum1 != partition23WPPCheckNum2)
{
numCuts3WPP++;
}
else if (partition33WPPCheckNum1 != partition33WPPCheckNum2)
{
numCuts3WPP++;
}
else
{
// cout << "No cut" << endl;
}
partition13WPPCheckNum1 = false;
partition13WPPCheckNum2 = false;
partition23WPPCheckNum1 = false;
partition23WPPCheckNum2 = false;
partition33WPPCheckNum1 = false;
partition33WPPCheckNum2 = false;
}
// Close File
inputFile.close();
cout << "Number of cuts for Three Way Partition Problem: " << numCuts3WPP << endl;
return 0;
}
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS SERIAL MONITOR
16
Partition 3:
2
5
8
11
14
17
File opened successfully.
Number of cuts for Three Way Partition Problem: 68
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm} 0<"/tmp/Microsoft-MIEngine-In-r0eub4uf.fq5" 1>"/tmp/Microsoft-MIEngine-Out-jwzvmrsp.l3o"
habrit@habrit-MS-7D25:~/Desktop/projects$
C/C++:...
cppdbg: KL...
Ln 336, Col 2 Spaces: 4 UTF-8 LF C++ Linux Prettier


KLGraphEdges.cpp - projects - Visual Studio Code
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Generate
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ECEN475 > KLGraphEdges.cpp > main()
// List number of cuts for initial solution.
// Open file
inputFile.open("Hunter.Britton.Input");
// Error checking
if (inputFile.fail())
{
cout << "Error opening file. " << endl;
exit(1);
}
else
{
cout << "File opened successfully. " << endl;
}
// read each line of the file
string line1;
bool partition13WPPCheckNum1 = false;
bool partition13WPPCheckNum2 = false;
bool partition23WPPCheckNum1 = false;
bool partition23WPPCheckNum2 = false;
bool partition33WPPCheckNum1 = false;
bool partition33WPPCheckNum2 = false;
while (getline(inputFile, line1))
{
istringstream iss(line1);
iss >> num1 >> num2;
for (int i = 0; i < partition13WPP.size(); i++)
{
if (partition13WPP[i] == num1)
{
// cout << "Num1 is in partition 1" << endl;
partition13WPPCheckNum1 = true;
}
if (partition13WPP[i] == num2)
{
// cout << "Num2 is in partition 1" << endl;
partition13WPPCheckNum2 = true;
}
if (partition23WPP[i] == num1)
{
// cout << "Num1 is in partition 2" << endl;
partition23WPPCheckNum1 = true;
}
if (partition23WPP[i] == num2)
{
// cout << "Num2 is in partition 2" << endl;
partition23WPPCheckNum2 = true;
}
if (partition33WPP[i] == num1)
{
// cout << "Num1 is in partition 3" << endl;
partition33WPPCheckNum1 = true;
}
if (partition33WPP[i] == num2)
{
// cout << "Num2 is in partition 3" << endl;
partition33WPPCheckNum2 = true;
}
}
if (partition13WPPCheckNum1 != partition13WPPCheckNum2)
PROBLEMS
OUTPUT
DEBUG CONSOLE
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C/C++: ...
cppdbg: KL...
File is open
File is closed
Partition 1:
2
4
6
8
10
12
14
16
18
Partition 2:
1
3
5
7
9
11
13
15
17
File opened successfully.
Number of cuts for Two Way Partition Problem: 53
Partition 1:
3
6
9
12
15
18
Partition 2:
1
4
7
10
13
16
Partition 3:
2
5
8
11
14
17
File opened successfully.
Number of cuts for Three Way Partition Problem: 68
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm} 0<"/tmp/Microsoft-MIEngine-In-r0eub4uf.f
q5" 1>"/tmp/Microsoft-MIEngine-Out-jwzvmrsp.l3o"
habrit@habrit-MS-7D25:~/Desktop/projects$
OUTLINE
TIMELINE
VS CODE PETS
Ln 336, Col 2
Spaces: 4
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Output Terminal (Above)