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EECS 118

Team 61

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Graph Peer Review

Reviewing team 4's Problem 31: find s where $\text{is_path}(s)$ and $\text{max_degree}(s, t, G)$ and $\text{color}(s, \text{Color}, u)$ and $t < C$ and $u < D$

Test Plan:

The program will be tested with two different graphs and inputs.

Graph #1:

```
graph.csv
1 1,2,0.5,green
2 1,3,0.9,green
3 1,4,1.0,black
4 2,7,0.7,green
5 7,3,0.5,green
6 3,4,0.1,blue
7 4,6,0.2,white
8 7,6,0.6,white

results.csv
1 Path 1:
2 1,2
3 Path 2:
4 1,3
5 3,7
6 7,2
7 Path 3:
8 1,3
9 3,4
10 4,6
11 6,7
12 7,2
13 Path 4:
14 1,4
15 4,3
16 3,7
17 7,2
18 Path 5:
19 1,4
20 4,6
21 6,7
22 7,2
23 Path 6:
24 1,2
25 2,7
26 Path 7:
27 1,3
28 3,7
29 Path 8:
30 1,3
31 3,4

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

C:\Users\hayde\Documents\GitHub\EECS118\GraphProblemSolver\Peer Review>python main.py graph.csv
Enter the the max degree value (max degree < value): 5
Enter the color: green
Enter the the maximum green edges value (max color < value): 4
```

Testcase 1, $C = 5$, Color = Green, $D = 4$: The program produced over a hundred paths.

```
results.csv
1

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

C:\Users\hayde\Documents\GitHub\EECS118\GraphProblemSolver\Peer Review>python main.py graph.csv
Enter the the max degree value (max degree < value): 2
Enter the color: black
Enter the the maximum black edges value (max color < value): 3
```

Testcase 2, C = 2, Color = Black, D = 3: The program didn't output anything which is correct

Graph #2:

```
g3.csv
1 0,7,5,green
2 1,17,5,green
3 2,3,5,green
4 2,6,5,green
5 2,18,5,green
6 2,19,5,green
7 4,16,5,green
8 5,14,5,green
9 5,16,5,green
10 5,12,5,green
11 7,10,5,green
12 7,13,5,green
13 7,14,5,green
14 8,15,7,green
15 8,12,7,green
16 9,11,7,green
17 11,19,7,green
18 12,17,7,green
19 17,19,7,green
```

```
results.csv
1 Path 1:
2 4,16
3 Path 2:
4 8,15
5 Path 3:
6 9,11
7 Path 4:
8 11,9
9 Path 5:
10 16,4
11 Path 6:
12 15,8
13

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

C:\Users\hayde\Documents\GitHub\EECS118\GraphProblemSolver\Peer Review>python main.py g3.csv
Enter the the max degree value (max degree < value): 3
Enter the color: green
Enter the the maximum green edges value (max color < value): 4
```

Testcase 3, C = 3, Color = green, D = 4: The program outputted correct paths but it's missing path 8,12.

```
results.csv
1 Path 1:
2 0,7
3 7,14
4 14,5
5 5,12
6 12,17
7 17,1
8 Path 2:
9 0,7
10 7,14
11 14,5
12 5,12
13 12,17
14 17,19
15 19,2
16 Path 3:
17 0,7
18 7,14
19 14,5
20 5,16
21 16,4
22 Path 4:
23 0,7
24 7,14
25 14,5
26 Path 5:
27 0,7
28 Path 6:
29 0,7
30 7,14
31 14,5

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

C:\Users\hayde\Documents\GitHub\EECS118\GraphProblemSolver\Peer Review>python main.py g3.csv
Enter the the max degree value (max degree < value): 10
Enter the color: white
Enter the the maximum white edges value (max color < value): 5
```

Testcase 4, C = 10, Color = White, D = 5: The program outputted values but it shouldn't have because the graph doesn't have any white paths.