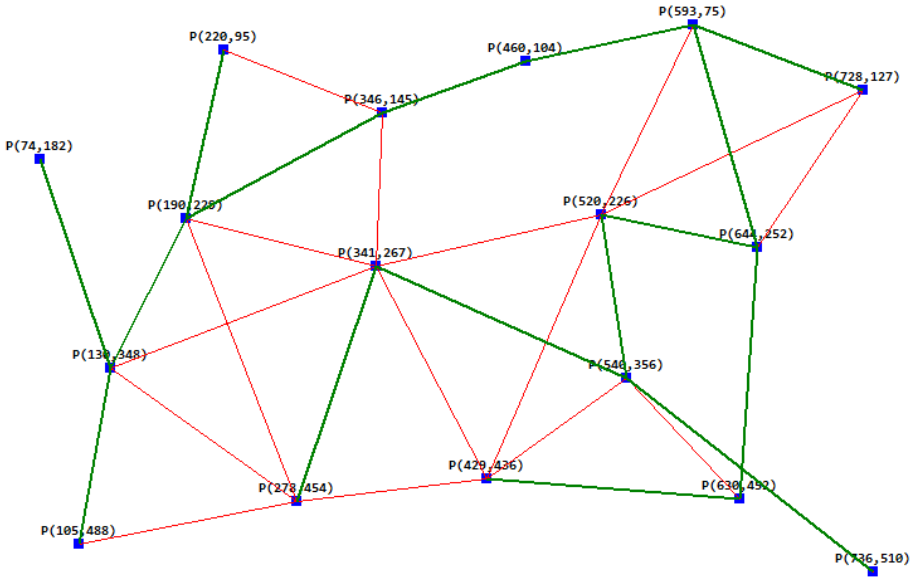
Lab 8

GRAPHS
DFS/BFS

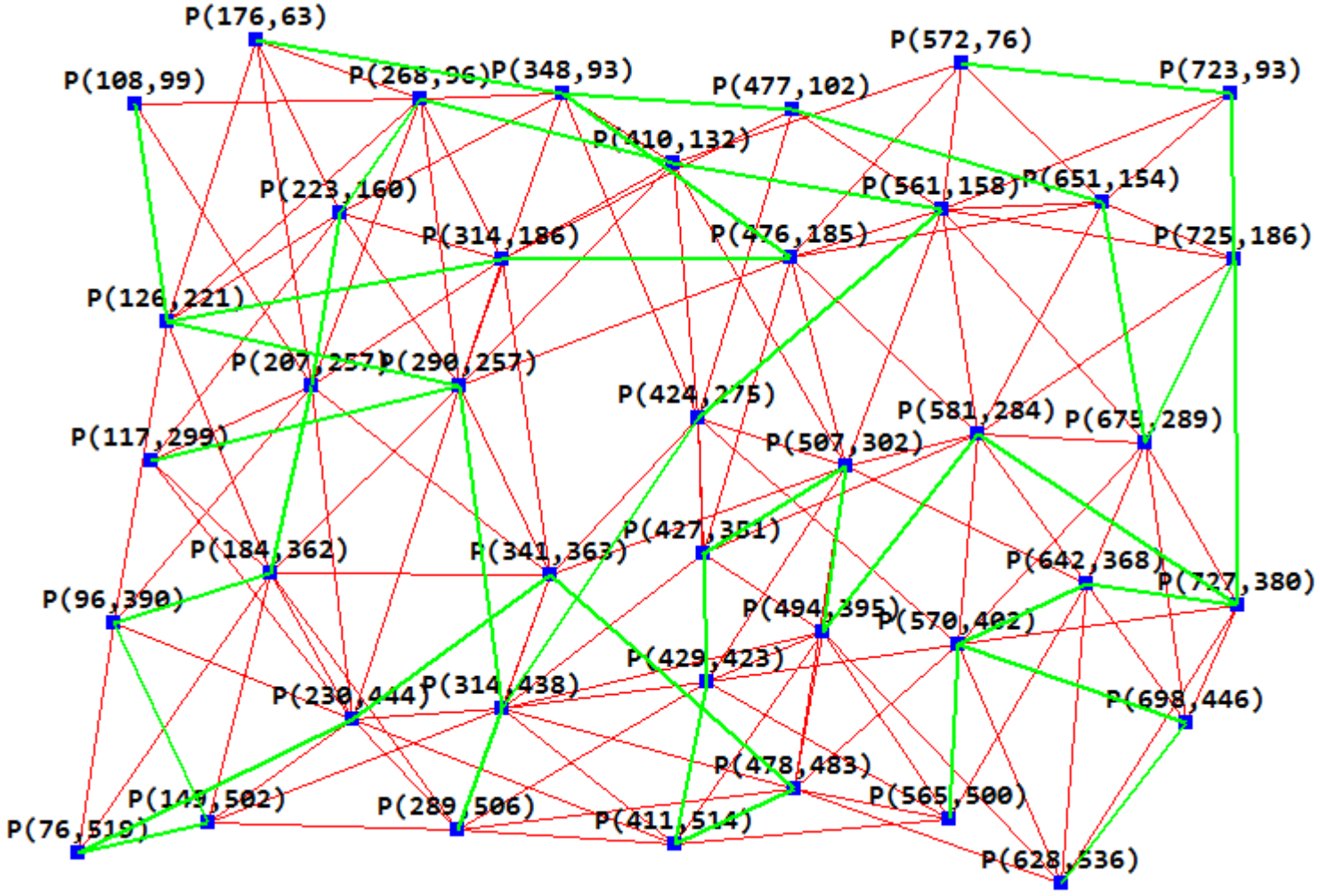
Problem 1: DFS and Spanning Tree

- Find a spanning tree for graph1 that starts with the point (278,454) using the DFS algorithm
- Try to draw your spanning tree by coloring its edges green
- Can you see more than one spanning tree?
- Count total length of edges in tree (write code). Hint: Use line length method.
- Use lecture notes on DFS to read about spanning trees
- Check your solution also on graph2, graph3, …



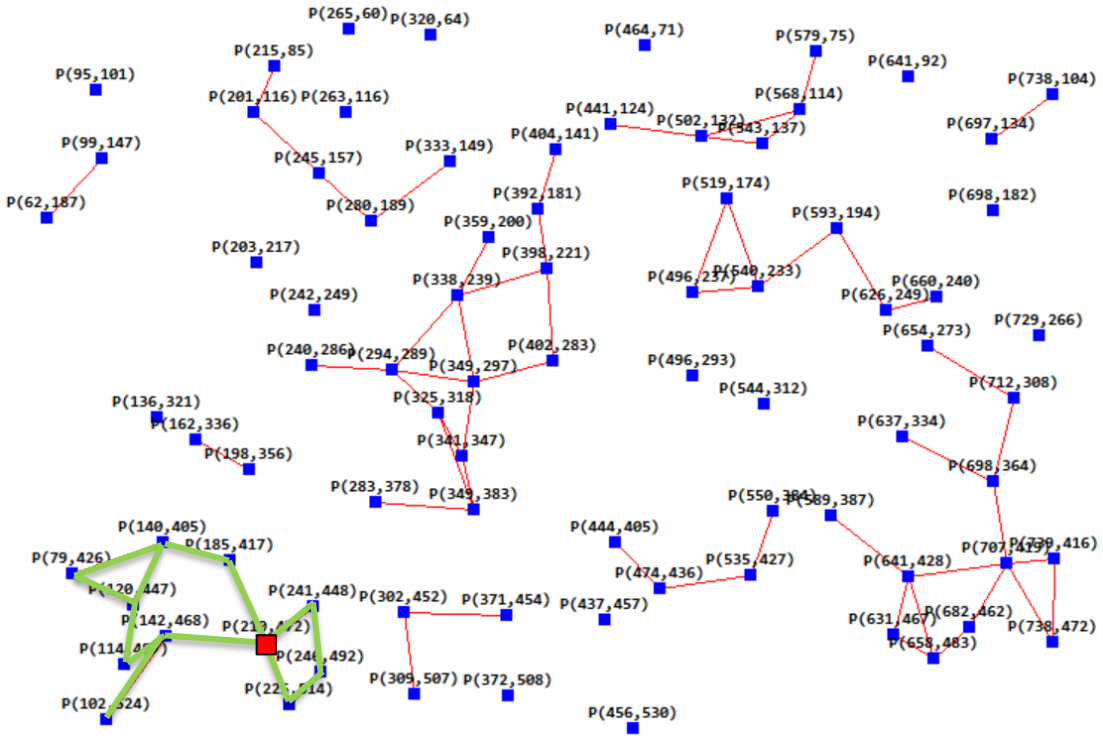
DFS and Spanning Tree

- Here is a Spanning Tree solution for graph4 that starts with the point (727,380)



Problem 2: Connectivity Components

- Create and Draw graph11.dat
- This is a disconnected graph, so it consists of several connectivity components
- Find the connectivity component that contains the point P(210,472) mark its components in green
- You need to write an algorithm for solving this problem
- Here is an example of how a disconnected graph looks like:



Problem 3: BFS and Spanning Tree

- Find a spanning tree for graph1 that starts with the point (278,454) using the BFS algorithm
- Try to draw your spanning tree by coloring its edges green
- Can you see more than one spanning tree?
- Count total length of edges in tree (write code). Hint: Use line length method.
- Use lecture notes on DFS to read about spanning trees
- Check your solution also on graph2, graph3, …