

Lab

GRAPHS

Graphs

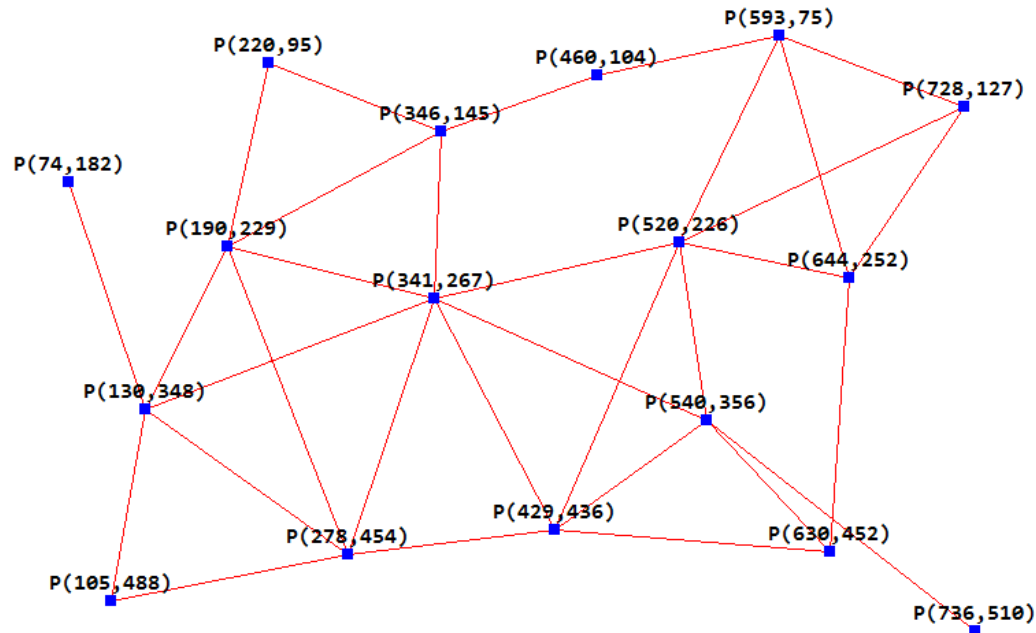
- You will need to download the files from the Moodle
 - ◆ graphics.py
 - ◆ point.py
 - ◆ line.py
 - ◆ graph.py
- This files may be updated from time to time, so be ready to refresh your copy when notified (a Moodle message will be sent to all students in case of update)

Download all your data graphs!

- All the graphs are planar graphs:
 - ◆ Vertices are points on a two dimensional plane
 - ◆ Edges are line segments between two points
- We will use the names graph1, graph2, graph3, ..., to refer to the graphs that are generated by these files
- You can generate two types of graphs from this files
 - ◆ Undirected graphs (if you ignore the direction)
 - ◆ Directed graphs

Problem 1: Graph Create and Draw

- Download the file: [data.zip](#) unzip it. It should open a 'data' directory
- Use the file [graph1.dat](#)
- It consists of two lines:
 - ◆ List of vertices (points on canvas plain)
 - ◆ List of edges (lines between two points)
- Parse this file, create the graph, and draw it:



Hint to Problem 1

- To be able to parse the file like graphs1.dat you will need the following function:

```
# Parse the list of integers inside  
# a string like '(10,20)' or '((10,20),(30,40))'  
import re  
def parse_ints(s):  
    t = re.sub('[(),]', ' ', s)  
    ints = [int(x) for x in t.split()]  
    return ints
```