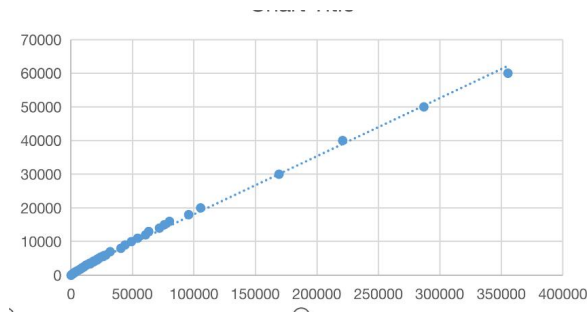


## Assignment 3

### Part 3

the relationship between the number of objects (n) and the number of pairs (m) generated approximately is  $n=m/5$



### Part 2

Implemented a [Assignment3Part2.java](#) in edu.neu.coe.info6205.union\_find package.

Runing ouput:

```
0 sites : 0 connections
100 sites : 262 connections
200 sites : 590 connections
300 sites : 958 connections
400 sites : 1281 connections
500 sites : 1793 connections
600 sites : 2038 connections
700 sites : 2568 connections
800 sites : 3241 connections
900 sites : 3334 connections
1000 sites : 3646 connections
1200 sites : 4519 connections
1400 sites : 5833 connections
1600 sites : 6431 connections
1800 sites : 7157 connections
2000 sites : 8696 connections
2200 sites : 9139 connections
2400 sites : 9796 connections
2600 sites : 10557 connections
2800 sites : 11453 connections
3000 sites : 12746 connections
3200 sites : 13461 connections
3400 sites : 14934 connections
3600 sites : 15557 connections
3800 sites : 15484 connections
4000 sites : 17765 connections
4200 sites : 19244 connections
4400 sites : 18661 connections
4600 sites : 20972 connections
4800 sites : 21731 connections
5000 sites : 23382 connections
5200 sites : 24535 connections
5400 sites : 24097 connections
5600 sites : 25908 connections
5800 sites : 27474 connections
6000 sites : 27650 connections
7000 sites : 32746 connections
8000 sites : 37919 connections
9000 sites : 45312 connections
10000 sites : 48320 connections
11000 sites : 55626 connections
12000 sites : 60290 connections
13000 sites : 64205 connections
```

### Part1 Test result

