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Program Structures & Algorithms Fall 2021 Assignment 3

1. Tasks Performed in the Assignment:

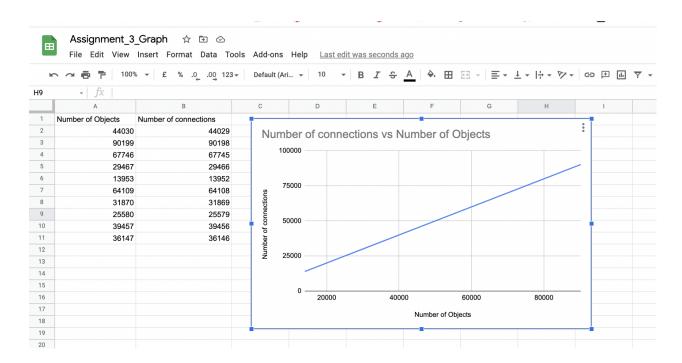
- a. Implemented the code for find(), mergeComponents(),
 doPathCompression() methods mentioned in UF_HWQUPC class
- b. Created the **UFClient** class to test the **UF_HWQUPC** code for large values of n (number of objects).
 - File Path: src/main/java/edu/neu/coe/info6205/union find/UFClient.java
- c. Plotted the excel graph for Number of Object vs Number of Connections
- d. Ensured that all the test cases ran successfully in UF_HWQUPC_Test class

2. Relationship conclusion:

The relationship between number of Objects (n) and number of pairs (m) generated to reach to single component i.e all objects should be connected is mentioned below:

Number of pairs/connection (m) = Number of objects (n) - 1

m = n-1



3. Evidence to support conclusion



