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Program Structures and Algorithms (Fall 2021)

Assignment 3

Link to the assignment’s repository - <https://github.com/Phani56/INFO6205-Assignments>

**Tasks Performed**

* Completed UF\_HWQUPC implementation and successfully ran the unit tests.
* Completed HWQUPC\_Solution implementation and tested for object count ranging from 1000 to 256000.
* Ran the test 10 times and recorded the pairs required for each time in an excel. Plotted the graph and deduced a relationship.

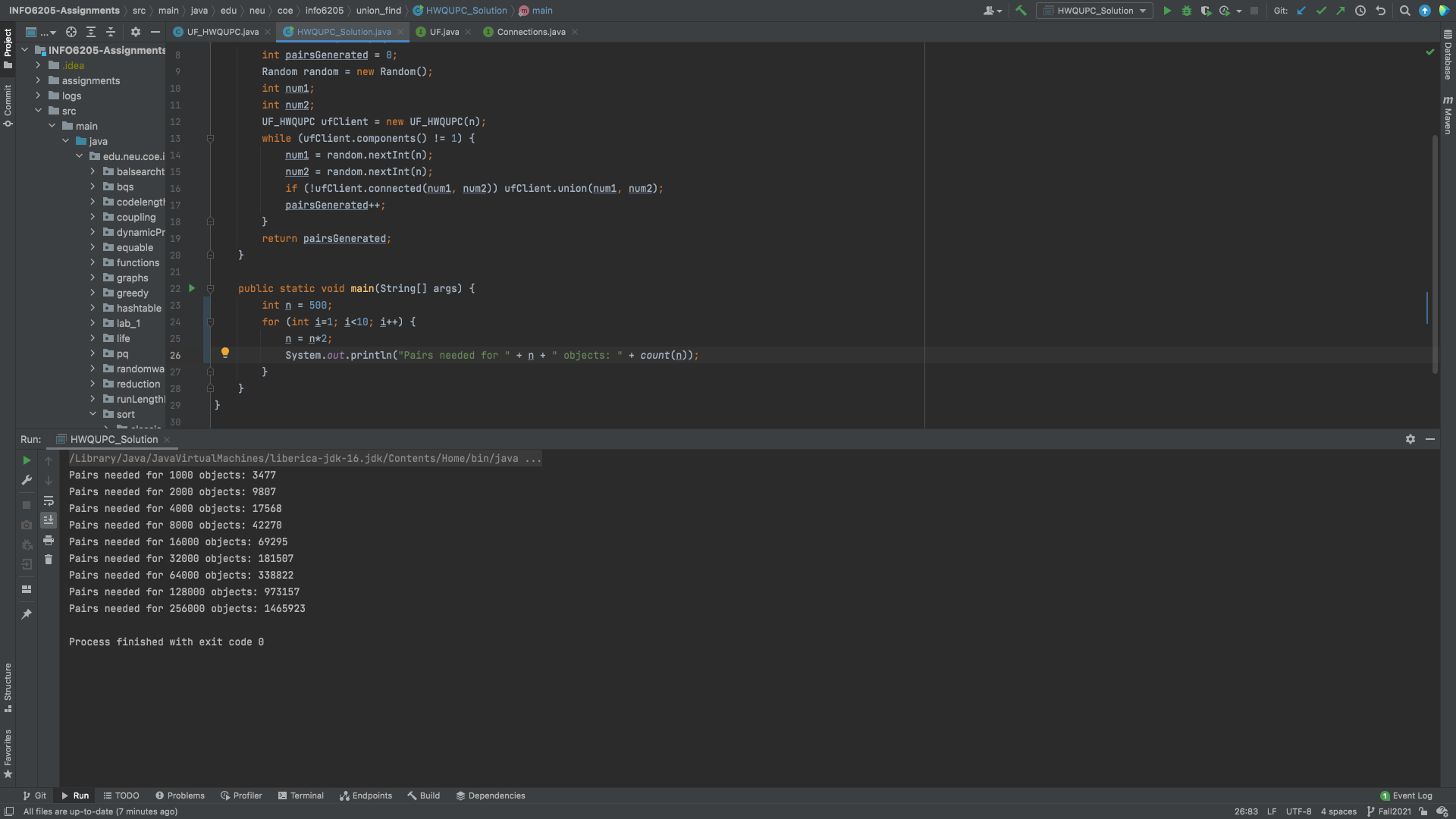
Link to data recorded and the graph plotted - [UF\_HWQUPC](https://docs.google.com/spreadsheets/d/13OjE632VDgphaPHRaZqgCHF-Pw3DxCtAUyAsHsGu8Ik/edit?usp=sharing)

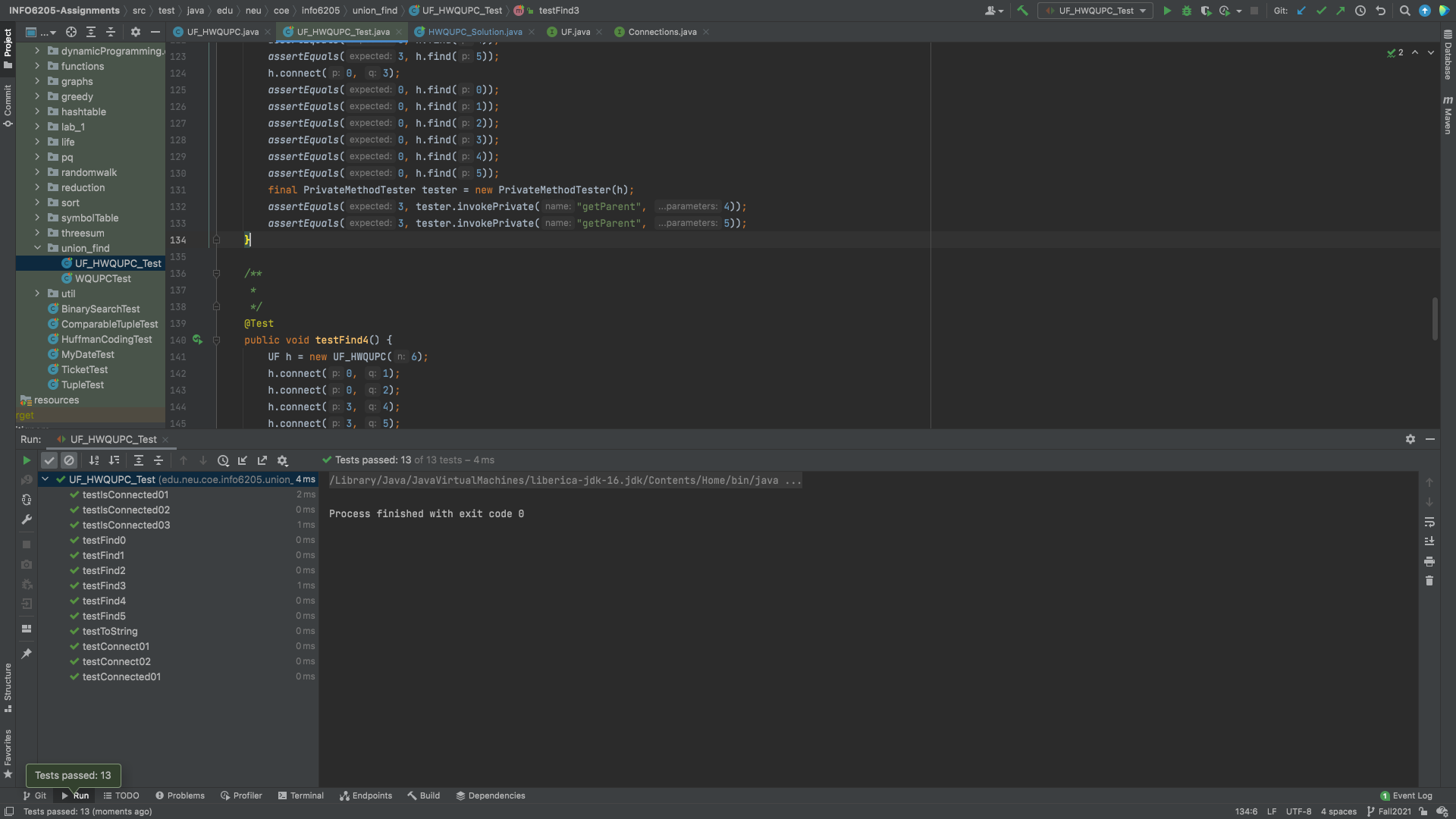
**Relationship between N and M**

N - number of objects, M - number of pairs generated. Based on the test runs, the graph and values. This is the relationship I have come up with

where C = 0.35

**Screenshots of Run and test**

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