

Program Structures and Algorithms
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GITHUB LINK: <https://github.com/tarunangrish-neu/INFO6205>

Task: In this code, we have to implement Height Weighted Quick Union Find with Path Compression. We had to develop a client that can accept input as CLI arguments. We had to estimate the relationship between no. of connections and the input as well. Please find all the details below.

Relationship Conclusion:

After conducting multiple experiments on different N values, we can estimate the no. of pairs 'm' as:

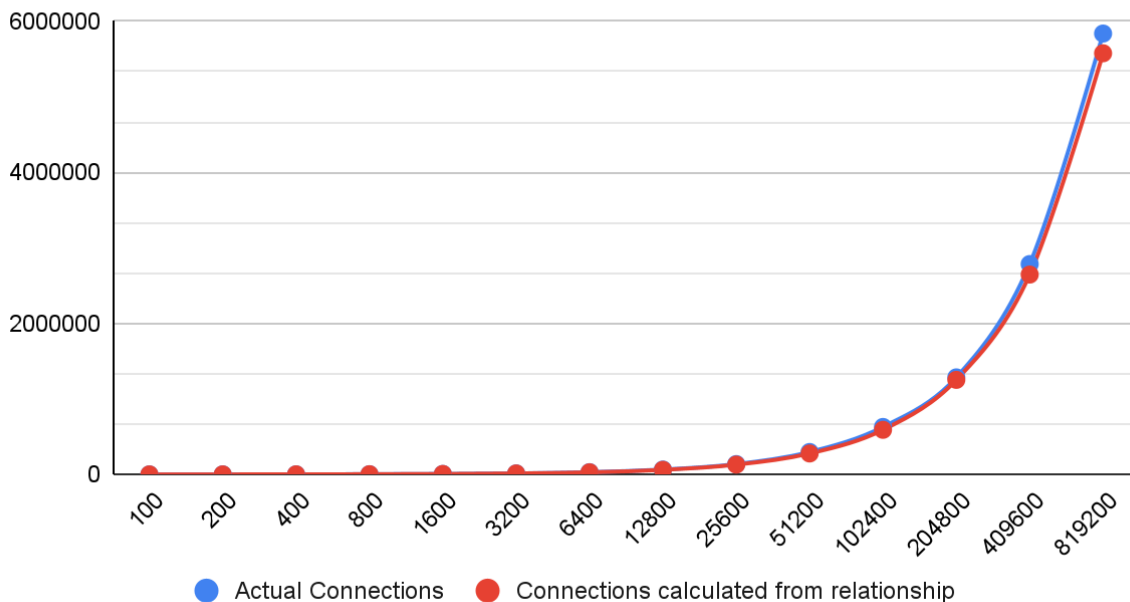
$$m \sim 0.5 * (n \ln(n))$$

Evidence to support that conclusion:

[Google Sheet Link](#)

Graphical Representation:

Input v/s No. of connections



Unit Test Screenshots and Output:

