CptS 453 — Homework-02

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Problem 1:

The bounds for a *biparte* graph is as follows:

- The lower bound is when the graph is extremely skewed to one side, where $n_i == 1$ for either side of the biparte graph and $n_j = 200 - n_i$ is the remaining side. Thus, the lower bound is $m = 200$.

- The upper bound is when the graph is perfectly symmetrically, where $n_i == n_j$. In this case,

$$n_i == n_j == 100$$

Thus,

$$m = n_i == n_j == n_i \cdot n_j == 100 * 100 == 10,000$$

Problem 2:

Similarly, for p and q as integers, where $p < q$. The lower bound of $K_{p,q}$ is the product $p \cdot q$, where $p == 1$. The upper bound is $((p+q)/2)^2$.

Problem 3:

The set of value k for which G_k is controlled by the following conditions:

- k where k is prime

- k where $\|j - i\| == k\%10$

- k where $10\%k \neq 0$

Since I'm not used to set theory, I am just listing the related subsets. There should be a relation among these subsets.