CSCI/MATH 2113 Discrete Structures
5.5 The Pigeonhole Principle

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1 The Pigeonhole Principle

1.1 Definition

If m pigeons occupy n pigeonholes and $m > n$ then at least one pigeonhole has two or more pigeons in it.

1.2 Example

If there are 5 points in a 2×2 square in the real plane, then two of these points are no more than $\sqrt{2}$ away from each other.

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