Tutorial 4

CSCI2110/MATH2080: Discrete Mathematics

1.8 - Proof Methods and Strategies
2.1 - Sets
2.2 - Set Operations

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Question 1 - Last Digit of 4th Power of Integer

Formulate a conjecture about the final decimal digit of the fourth power of an integer. Prove your conjecture using a proof by cases.

Question 2 - Russell's Paradox

(Rosen 46/126) Let S be the set that contains a set E if the set E does not belong to itself, so that $S = \{E : E \notin E\}$.

Question 3 - Subsets of a Finite Set

(Rosen 47/126) Find a procedure for listing all the subsets of a finite set. Either write it in pseudocode or program it in a language of your choice.