Problem Set Grading Rubric

Each solution/proof is graded on the following 5-point scale. The items listed below are general, and not every item given will apply to a particular solution or proof marked with a particular category. They are applied with the general theme of the scale being used to provide a score.

- **5 Pts.** A solution/proof receiving 5 points typically indicate the following:

    i) Solution/proof is correctly and logically given.
    ii) Notation, symbols, and quantifiers are used correctly.
    iii) Statements are clearly written and follow logically.
    iv) If applicable, the hypothesis and conclusion of the proof are clearly stated.
    v) The solution exposition is clearly written and easy to follow.

- **4 Pts.** A solution/proof receiving 4 points typically indicate the following:

    i) Solution/proof has the main flow of logic correct and can be followed, but with minor errors that doesn't invalidate the entire solution/proof.
    ii) There is a minor error in notation, symbols, or use of quantifiers.
    iii) While the reader can follow the step-by-step process, additional clarity may require more work than should be necessary on the reader's part for understanding (there is an error in exposition rather than content/substance).

- **3 Pts.** A solution/proof receiving 3 points typically indicate the following:

    i) Solution/proof has correct hypothesis and conclusion and the main flow of logic is correct, but at least one major element is missing (e.g., logical error or serious deficiency) in either the symbolism or in the flow of logic.
    ii) Substantial revision and effort is needed by the reader to reconstruct the correct computation/argument from what is submitted to form a a correct solution/argument.

- **2 Pts.** A solution/proof receiving 2 points typically indicate the following:

    i) Solution/proof has major flaws that invalidate the solution/argument. The flaws could included an incorrect initial assumption, an incorrect use of symbols/quantifiers, or major defects in logic.
    ii) The notation, symbols, or use of quantifiers is poor, making it difficult to follow the solution/proof.
    iii) The majority of the argument is incorrect, and a complete rewrite of the solution/proof is needed to correct the errors.

- **1 Pts.** A solution/proof receiving 1 point typically indicates that an attempt at a solution/proof is attempted, but is completely illogical and/or uses invalid logic.

- **0 Pts.** A solution/proof receiving 0 points indicates that no written solution/proof was submitted.