

Names:

Homework #: 2

## 1. WRITTEN COMMUNICATION

### 1.1. Grammatical Correctness (Sentence Level)

- Excellent : The essay is clear, containing no grammatical or mechanical errors.  
: *No points lost*
- Adequate : The essay contains minimal grammatical and mechanical errors.  
: *5 points lost*
- Needs Improvement : The essay contains numerous grammatical and mechanical errors.  
: *15 points lost*
- Inadequate : Sentences and paragraphs are hard to read due to poor grammar or mechanics.  
: *50 points lost*

### 1.2. Clarity (Paragraph Level)

- Excellent : Ideas are effectively presented in well-designed paragraphs. As a result the essay is  
: easy to follow.  
: *No points lost*
- Adequate : Paragraphs are structured so as to present easily discerned ideas and are connected by  
: basic transitions.  
: *15 points lost*
- Needs Improvement : The essay is difficult to follow because of some combination of poor transitions and  
: rambling paragraph content.  
: *25 points lost*
- Inadequate : There is no apparent organization to the paragraphs of the essay.  
: *75 points lost*

### 1.3. Structure and Presentation (Whole Essay)

- Excellent : Excellent: The essay presents its ideas and conclusions logically, clearly and effectively.  
: *No points lost*
- Adequate : Basic ideas are logically presented, but the essay is flat or draws inappropriate  
: conclusions from the ideas presented.  
: *25 points lost*
- Needs Improvement : Some thoughts are discernable, but the essay is lacks sufficient organization to make an  
: effective argument.  
: *50 points lost*
- Inadequate : Thoughts presented do not appear organized or logical.  
: *100 points lost*

### 1.4. Appropriateness Relative to Assignment

- Excellent : The essay addresses the assigned topic directly in the form required.  
: *No points lost*
- Adequate : The essay is on the assigned topic but may not include all aspects of the topic expected  
: for the assignment.  
: *25 points lost*
- Needs Improvement : The essay is only peripherally related to the assigned topic or examines the topic in a  
: different way than that is required.  
: *50 points lost*
- Inadequate : The essay is not responsive to the theme and structure required in the assignment.  
: *100 points lost*

### 1.5. Grader Comments

## 2. THEORY

### 2.1. Syntax (Understanding of the Mathematical Language Used)

- Excellent : The proof is clearly written with correct usage of mathematical notation.  
: *No points lost*
- Adequate : The intended meaning is clear and there are only a few places where the mathematical notation is used incorrectly.  
: *5 points lost*
- Needs Improvement : The intended meaning can be discerned from the proof, but the use of mathematical notation is incorrect in many places.  
: *15 points lost*
- Inadequate : The use of mathematical notation cannot be understood.  
: *25 points lost*

### 2.2. Semantics (Understanding Proofs)

- Excellent : The student has demonstrated that they understand the logic underlying an proof by induction.  
: *No points lost*
- Adequate : The student has demonstrated that they understand the logic underlying an induction (contradiction) proof but there are some errors.  
: *5 points lost*
- Needs Improvement : The student seems to understand how a proof by induction (contradiction) is supposed to look, but has difficulty fitting the structure to the specific problem.  
: *15 points lost*
- Inadequate : The student has not demonstrated an understanding of the structure of a proof by (contradiction/ induction).  
: *25 points lost*

### 2.3. Logic (Understanding How-to Tailor the Proof to the Specific Problem)

- Excellent : The student provides a logically sound proof.  
: *No points lost*
- Adequate : The student understands the statement of the theorem and how to tailor an induction to the problem instance, but fails to complete the argument to form a correct proof.  
: *5 points lost*
- Needs Improvement : The student understands what needs to be proven, but cannot find adequate statements (e.g., an appropriate induction hypothesis) which would logically prove the statement.  
: *15 points lost*
- Inadequate : The student's proof fails to address the statement of the theorem.  
: *25 points lost*

### 2.4. Grader Comments

### 3. ALGORITHMS

#### 3.1. Syntax (Understanding of the Notational Syntax Used to Specify Algorithms)

- Excellent : The notation is clear and syntactically correct.  
: *No points lost*
- Adequate : The intended meaning is clear and there are only a few places where the notational  
: syntax is used incorrectly.  
: *10 points lost*
- Needs Improvement : The intended meaning can be discerned from the notation, but the use of the notation is  
: incorrect in many places.  
: *25 points lost*
- Inadequate : The use of notational syntax cannot be understood.  
: *50 points lost*

#### 3.2. Mechanics (Understanding How the Algorithms Work)

- Excellent : The student has demonstrated a thorough understanding of the algorithm mechanics.  
: *No points lost*
- Adequate : The student has demonstrated an understanding of the algorithm mechanics, but still  
: makes some errors.  
: *10 points lost*
- Needs Improvement : The student has somewhat of a notion of how the algorithm works, but has difficulty  
: understanding its structure and interactions.  
: *25 points lost*
- Inadequate : The student has not demonstrated an understanding of the algorithm mechanics.  
: *50 points lost*

#### 3.3. Behavior (Understanding the Algorithms' Behavior in a Specific Problem Space)

- Excellent : The student has demonstrated a thorough understanding of the algorithm's behavior.  
: *No points lost*
- Adequate : The student has demonstrated an understanding of the algorithm's behavior, but still  
: misses some of the subtleties.  
: *10 points lost*
- Needs Improvement : The student has somewhat of a notion of how the algorithm behaves, but insufficient to  
: effectively employ the algorithm for problem solving.  
: *25 points lost*
- Inadequate : The student has not demonstrated an understanding of the algorithm's behavior.  
: *50 points lost*

#### 3.4. Application (Understanding How-to Appropriately Match Algorithms and Problems)

- Excellent : The student has demonstrated a thorough understanding of how to match algorithms and  
: problems.  
: *No points lost*
- Adequate : The student has demonstrated an understanding of how to match algorithms and  
: problems, but still misses some of the subtleties.  
: *10 points lost*
- Needs Improvement : The student has somewhat of a notion of how to match algorithms and problems, but  
: insufficient for effective application.  
: *25 points lost*
- Inadequate : The student has not demonstrated an understanding of how to match algorithms and  
: problems.  
: *50 points lost*

#### 3.5. Grader Comments