Rubrics for Data Structures and Algorithms (AI2003)

Rubric for Assessment of Computer Algorithms, in the form of sentence descriptor / pseudo code / diagram

Criteria for assessment	***Performance levels***				
	Excellent **10 / A / 4**	**Good** **8 / B / 3**	**Satisfactory** **6 / C / 2**	**Marginal Pass** **4 / D / 1**	**Fail** **F / 0**
Use of terminology and notation (10 % weighting)	Notation is skillfully used; terminology is used flawlessly.	Notation and terminology are used correctly with only a few minor flaws.	Notation and terminology are used correctly with some moderate errors.	Notation and terminology are used correctly with some major errors.	Terminology and notation are incorrectly and inconsistently used.
Correctness (40 % weighting)	The steps in the algorithm / pseudo code / Diagram, the input and the output are complete and correct.	The steps in the algorithm / pseudo code / Diagram, the input and the output are mostly correct, but involve some minor flaws.	The steps in the algorithm / pseudo code / Diagram, the input and the output are correct but involve some moderate flaws.	The steps in the algorithm / pseudo code / Diagram, the input and the output are basically correct, but involve some major flaws.	The steps in the algorithm / pseudo code / Diagram, the input and the output are largely incorrect.
Efficiency (50 % weighting)	The time / storage / network consumption is minimized.	The time / storage / network consumption is almost minimized, but a small part of the method is not optimal.	The time / storage / network consumption is basically minimized, but a moderate part of the method is not optimal.	The time / storage / network consumption is basically minimized, but a major part of the method is not optimal.	The time / storage / network consumption is not optimal.

Rubric for Mathematical Proofs and Computations

Criteria for assessment	*Performance levels*				
	Excellent **10 / A / 4**	**Good** **8 / B / 3**	**Satisfactory** **6 / C / 2**	**Marginal Pass** **4 / D / 1**	**Fail** **F / 0**
Logic and reasoning (60 % weighting)	The mathematical reasoning is sound and the logical flow is cohesive.	The mathematical reasoning is mostly sound and the logical flow is mostly cohesive. However, there are some minor flaws or omissions in the mathematical reasoning.	The mathematical reasoning and the logical flow are smooth. However, there are some moderate flaws or omissions in the mathematical reasoning.	The mathematical reasoning is basically correct and the logical flow can be followed. However, there are some major flaws or omissions.	The mathematical reasoning is either absent or seriously flawed.
Use of mathematical terminology and notation (10 % weighting)	Notation is skillfully used; terminology is used flawlessly.	Notation and terminology are used correctly with only a few minor flaws.	Notation and terminology are used correctly with some moderate errors.	Notation and terminology are used correctly with some major errors.	Terminology and notation are incorrectly and inconsistently used.
Correctness (20 % weighting)	The steps in the proof / computation are complete and correct.	The steps in the proof / computation are mostly correct, but involve some minor flaws.	The steps in the proof / computation are correct but involve some moderate flaws.	The steps in the proof / computation are basically correct, but involve some major flaws.	The steps in the proof / computation are largely incorrect.
Style and Clarity (10 % weighting)	The steps in the proof / computation are well-written, easy to follow, and approaches elegance.	The steps in the proof / computation are mostly easy to follow, but may contain unnecessary detail or appear awkward.	The steps in the proof / computation are basically understandable except some parts are not very clear.	The proof/computation ends abruptly, and it may not be clear whether the writer knows how to assemble the parts of the argument.	The proof/computation is disorganized and confused.

Rubric for Programming

Criteria for assessment	*Performance levels*				
	Excellent **10 / A / 4**	**Good** **8 / B / 3**	**Satisfactory** **6 / C / 2**	**Marginal Pass** **4 / D / 1**	**Fail** **F / 0**
Function test (80 % weighting)	All systems test case run successfully.	Most system test case run successfully.	Some unit test case runs successfully.	Only a few test cases successfully.	The code runs none.
Program structure (10 % weighting)	Needed program structures are evident.	Program structures are clear.	Program structures are obscure.	Needed program structures are lacking.	None.
Comment (5 % weighting)	Comments are adequately provided and are at levels of abstraction appropriate for conveying specifics about the programs.	Comments are mostly provided and at levels of abstraction appropriate for conveying specifics about the program.	Comments are provided somewhere, but at too low a level of abstraction to be of much use.	Comments are sparse or vague, and give little information about the purpose of the program or how it goes about carrying it out.	No comments and no information about the purpose of the program.
Code style (5 % weighting)	A clear coding style is evident, and consistently applied, greatly enhancing program readability	A clear coding style with mostly consistency in application, aiding readability in a majority of the program.	A clear coding style is hinted at, with some consistency in application, aiding readability in some of the program.	A clear coding style is lacking, or applied very inconsistency, with readability suffering accordingly.	None