Performance Indicators for Homework 6

Cpt S 317, Spring 2017, School of EECS, WSU

Grading rubric:

Each question in the student's work will be assigned a letter grade of either A,B,C,D, or F by the TAs. This five-point (discrete) scale is described as follows:

A) Exemplary (=100%)
Solution presented solves the problem stated correctly and meets all requirements of the problem.
Solution is clearly presented.
Assumptions made are reasonable and are explicitly stated in the solution.
Solution represents an elegant and effective way to solve the problem and is not overly complicated than is necessary.

B) Capable (=75%)
Solution is mostly correct, satisfying most of the above criteria under the exemplary category, but contains some *minor* pitfalls, errors/flaws or limitations.

C) Needs Improvement (=50%)
Solution demonstrates a viable approach toward solving the problem but contains some *major* pitfalls, errors/flaws or limitations.

D) Unsatisfactory (=25%)
Critical elements of the solution are missing or significantly flawed.
Solution does not demonstrate sufficient understanding of the problem and/or any reasonable directions to solve the problem.

F) Not attempted (=0%)
No solution provided.

The points on a given homework question will be equal to the percentage assigned (given by the letter grades shown above) multiplied by the maximum number of possible points worth for that question. For example, if a question is worth 6 points and the answer is awarded a B grade, then that implies 4.5 points out of 6.

<For ABET use only>

Performance Indicators for use in this Homework :

Overview. This document describes performance indicators (taken out of a more comprehensive list of performance indicators used at the School of EECS) that we will use to grade student work on the specified homework in Cpt S 317. Each question in the homework may use a subset of indicators and to varying degrees.

Questions in this homework will use the following Performance Indicators:

Question#	Q1	Q2	Q3	Q4	Q5	Q6
PI#	B1,C4	C4, partly I4	C4, partly I4	C4, partly I4	C4	C4, partly I4

<u>**PERFORMANCE INDICATORS:**</u>

A *An ability to apply knowledge of computing and mathematics appropriate to the discipline.*
In particular, students should be able to apply this knowledge in a way that demonstrates comprehension of the tradeoffs involved in the modeling, design and development of software systems of various scales and complexity.

Performance Indicators:

1. Designs an algorithm and/or data structure to solve a specified problem.

2. Demonstrates understanding of computer hardware architecture at the instruction level.

3. Uses continuous and discrete mathematics to analyze correctness and performance of hardware/software systems.

4. Synthesizes the results of modeling, simulation, and prototyping to refine a design concept.

5. Implement programs using multiple programming languages and paradigms including at least the imperative, object-oriented, and functional paradigms.

6. Uses pre-existing code libraries as components of programs.

7. Uses modern development environments, debuggers, version control and bug tracking tools.

8. Develops a test plan to give confidence in the validity of a solution.

B *An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.*

Indicators:

1. Identifies technical requirements and specifications for a design project.

2. Constructs a problem statement that articulates what constitutes a solution.

3. Identifies measurable parameters that characterize a problem and its solution.

C *An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.*

Indicators:

1. Recognizes when theory dictates that a solution is impractical or impossible.

2. Generates multiple design concepts.

3. Determines and articulates tradeoffs among design alternatives and selects an approach or, as appropriate, approaches to solve the problem.

4. Implements the selected approach, or approaches, to obtain a solution.

5. Validates a solution, identifying reasons for differences between expected and actual behavior.

I An ability to use current techniques, skills, and tools necessary for computing practice

Performance Indicators:

1. Uses current programming languages, operating systems, and software libraries to implement computing solutions.

2. Uses current tools to create documents and presentations.

3. Uses current tools to manage data and processes related to development of computing solutions.

4. Evaluates which techniques or tools are most appropriate to complete a specific computing task.