F. Sample Assignments Produced and Carried Out Under the Writing Fellowship

Course: 420-315-DW, Programming IV – Advanced C# and .NET Programming

F-3. Sample assignment: Write About, and Discuss, Good Coding Style

This assignment was given in-class on Thursday January 27, 2011 (course week 2).

Objectives: (a) Introduce my course coding standards to the class and achieve student comprehension and buy-in; (b) introduce and discuss notions of "good" and "bad" programming styles; (c) introduce students to specific course methodologies of writing to learn and in-class small-group activities; (d) begin to foster a course atmosphere that encourages inquiry, exploration, discussion, and debate while valuing the dignity and worth of each student (cf. Bean).

Rationale: Coding standards for style and methodologies and are a fact of life in most organizations and are desirable even for programmers working alone. Understanding and adhering to coding standards is an element of programming competency and having students code to standards is also useful for those who have to mark student programming assignments. Programmer productivity is known to be significantly affected by style and methodology. It is therefore appropriate in programming courses to provide related learning activities.

Competencies developed, used or related: 0004, 000F, 000L, 000U, 016N, 016V, 016Z, 0171, 017A, 017D.

Methodology and Preparation:

None. This activity is designed to be used before any instruction on the topic of style, in order to cause these fourth-semester students to recall their existing knowledge about coding styles and standards, and to stimulate them to relate subsequent new material to their existing knowledge.

In-class Activity:

Review simple standards for required program elements (e.g. comments), identifier naming conventions etc. Solicit comments from individuals in whole-class group (by asking them probing questions) as to similarity/differences with other teachers' requirements (discuss as required).
Give students five minutes to write using their laptops (in pairs) the answers to these three questions (answers must include reasons):
Is there more than one "right" way to code a given solution?
Is there a "best" way?
What do we mean by "right" and "best", anyway?
Form small groups (four people) and have groups compare individual answers (five minutes).
Ask one or two groups to summarize their answers as a check on learning.
(here occurred a failed attempt to have students post their writing to our Moodle system)
Have students email their written individual answers to me for post-class review.

Follow-On Activity: coding exercises, assignments and assessment occur throughout the semester.