CSCE 330 Spring 2006

QUIZ 3

Assigned Tuesday, 06-01-24

Here is a quote from: Nicklaus Wirth, "Good Ideas, Through the Looking Glass," *Computer*, January 2006, 28–39.

> [T]he core idea is that functions inherently have no state. This implies that there are no variables and no assignments. Immutable function parameters—variables in the mathematical sense—take the place of variables. As a consequence, freshly computed values cannot be reassigned to the same variable, overwriting its old value. This explains why repetition must be expressed by recursion. A data structure can at best be extended, but no change can be made to its old part. This yields an extremely high degree of storage recycling—a garbage collecor is the necessary ingredient.

Which of the three main programming language families is described in the above paragraph? **Answer:** The functional (or applicative) one

Mention one major programming language designed by Nicklaus Wirth. To which of the three main programming language families does it belong? **Answer:** One of: Pascal, Modula-2, Oberon, Euclid, Algol-W.

These questions refer to the paper on the Ariane disaster handed out on Tuesday. What is to blame? (Choose one.)

1. Management
2. Language
3. Design
4. Implementation
5. Syntax
6. Assertions
7. Denotational Semantics
8. Testing
9. Reuse Specification

Answer: Reuse specification

The authors give an example of good specification associated with a module in a particular programming language. Which language? **Answer:** Eiffel

Who is the designer of the language mentioned in the previous question? **Answer:** Bertrand Meyer