INTRODUCTION TO THE SOFTWARE DESIGN AND DOCUMENTATION LANGUAGE

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Software design and program documentation, the neglected facets of the software development process, are finally receiving the attention they need and deserve. Software design used to be something that merely happened while a program was being written, and program documentation was something that was supposed to happen (but rarely did) when the program was finished. Both of these tasks require documentation aids, methods, and standards to support and encourage effective communication among the members of the software development team.

The purpose of the Software Design and Documentation Language (SDDL) is to meet these communication needs. This is accomplished by providing (1) a language for expressing design concepts, whose syntax and forms are simple, unrestrictive, and communicative, (2) a processor which can take specifications written in SDDL and produce an intelligible, informative, machine-reproducible document, and (3) methodology for effective use of language and processor for creating well structured, top-down program designs and documentation.

The topics to be covered in the SDDL tutorial are outlined below:

TUTORIAL OUTLINE OF SOFTWARE DESIGN AND DOCUMENTATION LANGUAGE

I. SDDL Introduction and Overview
   - A. The Software Development Team (Effective Communication)
   - B. The Software Design Document (SDD)
     1. Readability
     2. Maintainability
     3. Management Visibility
     4. Progress Measurement
   - C. The Experience to Date

II. Tutorial
   - A. Keywords and Structures (Mechanics)
     1. Structured Programming Concepts
     2. Indented Listings vs Flowcharts
     3. Summary of Processor Actions
        - a. Modules and blocks
        - b. Initiator statements
        - c. Terminator statements
        - d. Escape statements
        - e. Substructure statements
        - f. Module invocation statements
   - B. Processor Directives
     1. Syntax Diagrams (How To Read)
     2. Format Control
        - a. #WIDTH
        - b. #INDENT
        - c. #SEQUENCE
        - d. #LINENUMBER
        - e. #SAMEPAGE
        - f. #EJECT
        - g. #BLANKS
        - h. #HEADING
        - i. #TEXT
        - j. #TITLE
        - k. #END
     3. Cross Reference Tables
        - a. #MARK
        - b. #STRING
     4. Keyword Definitions
        - a. #DEFINE MODULE/BLOCK
        - b. #DEFINE CALL
        - c. #DEFINE NULL
   - C. Methodology
     1. Project Management Information
     2. Design Techniques
        - a. Data structures
        - b. Algorithms
        - c. Module interface communication
     3. Structured Walkthroughs (Design Reviews)
     4. Processing Computer Programs Through SDDL

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