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CSCI 330-54

4 February 2025

Q2 Homework2

Sebesta Chapter 2 Review Questions:

2. Two common data structures that were included in Plankalkül are arrays and records.

5. A primary reason as to why slowness of interpretive systems was tolerated from the late 1940s to the mid-1950s was the lack of floating-point hardware in available computers. As long as floating-point had to be done by software, interpretation was an acceptable expense.

6. The IBM 704 system had both indexing and floating-point instructions in hardware, which signaled an end of the interpretive era, at least for scientific computation. The inclusion of floating-point hardware helped with the cost of interpretation.

7. The Fortran design project began in 1954, a version that we refer to as Fortran 0. Fortran 0 was modified and turned into a version we know as Fortran I released in 1957.

8. The primary application area of computers at the time Fortran was designed was scientific and engineering computations.

9. The control flow statements in Fortran I were primarily based on IBM 704 assembly language.

10. The most significant feature added to Fortran I to get Fortran II was the independent compilation for subroutines.

11. Fortran 77 retained most of the features of Fortran IV and added character string handling, logical loop control statements, and ‘If’ with an optional ‘Else’ clause.

14. Linguistics were interested in artificial intelligence in the late 1950s because they were concerned with natural language processing.

15. Lisp was developed at the Massachusetts Institute of Technology (MIT) by John McCarthy in 1958.

20. The missing language element that damaged ALGOL 60's chances for widespread use were input/output statements with formatting.

21. The language designed to describe the syntax of ALGOL 60 was Backus-Naur Form.

22. COBOL was based on the FLOW-MATIC programming language.

23. The COBOL design process began in 1959.

24. The record data structure appeared in COBOL, and it originated with Plankalkül.

25. The U.S. Department of Defense (DoD) was the organization most responsible for the early success of COBOL.

36. A nonprocedural language means that programs in such languages do not state exactly how a result is to be computed but rather describe the necessary form and/pr characteristics of the result.

37. The database of a Prolog program consists of two kinds of statements: facts and rules.

46. In the first few years of Java popularity, the Web was its most common application.

51. JavaScript is most widely used for web development.

52. JavaScript and PHP are both widely used in web development, but JavaScript deals with client-side while PHP deals with server-side.

57. C# makes sure that switch statements have proper syntax for the cases, while C does not. In C, if a break statement is omitted the case falls through to the next one.

59. An XSLT processor takes an XML data document and an XSLT document (which is also in the form of an XML document) as input.

60. The output of an XSLT processor is another XML data document, transformed according to the rules specified in the XSLT document.