From Sebesta chapter 2 review questions

2) What two common data structures were included in Plankalkül?
- Arrays and records

5) Why was the slowness of interpretation of programs acceptable in the
early 1950s?
- Because not enough computers have floating-point hardware. Computers were mainly
  used for batch processing, which usually took a long time anyway. The benefits of using
  a high-level programming language were more important than the slow speed.

6) What hardware capability that first appeared in the IBM 704 computer
strongly affected the evolution of programming languages? Explain why.
- floating-point arithmetic hardware capability first appeared in the IBM 704 computer
  strongly affected the evolution of programming languages because before there was
  special hardware for floating-point calculations, all floating-point operations had to be
  done with software, which took a lot of time.

7. In what year was the Fortran design project begun?
- The Fortran design project began in 1954.

8. What was the primary application area of computers at the time Fortran
was designed?
- Scientific computations.

9. What was the source of all the control flow statements of Fortran I?
- they were based on 704 instructions.

10. What was the most significant feature added to Fortran I to get Fortran II?
- independent compilation for subprograms has been added.

11. What control flow statements were added to Fortran IV to get Fortran 77?
- The IF-THEN-ELSE construct and the DO WHILE loop.

14. Why were linguists interested in artificial intelligence in the late 1950s?
- Linguists were interested in artificial intelligence to develop natural language processing
systems for tasks such as automatic translation.

15. Where was Lisp developed? By whom?
- LISP was developed at Massachusetts Institute of Technology by John McCarthy.

20. What missing language element of ALGOL 60 damaged its chances for widespread use?
- Lack of input/output (I/O) facilities.

21. What language was designed to describe the syntax of ALGOL 60?
- Backus-Naur Form (BNF) was developed to describe the syntax of ALGOL 60.

22. On what programming language was COBOL based?
- COBOL was based on FLOW-MATIC.

23. In what year did the COBOL design process begin?
- The COBOL design process began in 1959.

24. What data structure that appeared in COBOL originated with Plankalkül?
- Hierarchical records (nested data structures).

25. What organization was most responsible for the early success of COBOL (in terms of extent of use)?
- The U.S. Department of Defense

36. What is a nonprocedural language?
- A language in which the user specifies what is to be done rather than how it is to be done (e.g., SQL).

37. What are the two kinds of statements that populate a Prolog database?
- Facts and rules.

46. What was the first application for Java?
- Java was initially designed for programming consumer electronic devices.

51. For what application area is JavaScript most widely used?
- JavaScript is most widely used for web development, particularly for creating dynamic and interactive web pages.

52.What is the relationship between JavaScript and PHP, in terms of their use?
- JavaScript is mainly used for writing code that runs on the user's computer, while PHP is used for writing code that runs on the server.

57. What deficiency of the switch statement of C is addressed with the
changes made by C# to that statement.
- In C#, the switch statement includes rules to prevent accidental fall-through between
  cases, which was a common issue in C.

59. What are the inputs to an XSLT processor?
- An XML data document and an XSLT stylesheet.

60. What is the output of an XSLT processor?
- XML document