

2. What two common data structures were included in Plankalkül?

The single bit from which numeric types were built. Arrays and records were also included.

5. Why was the slowness of interpretation of programs acceptable in the early 1950s?

Because it simplified the programming process.

6. What hardware capability that first appeared in the IBM 704 computer strongly affected the evolution of programming languages? Explain why.

Indexing and floating-point instructions in hardware first appeared in the IBM 704. This affected the evolution of programming languages because these operations previously had to be simulated in software which was very time-consuming.

11. What control flow statements were added to Fortran IV to get Fortran 77?

Logical loop control statements, and an if with an optional else clause.

14. Why were linguists interested in artificial intelligence in the late 1950s?

Linguists wanted to explore natural language processing.

15. Where was Lisp developed? By whom?

Lisp was developed by John McCarthy and Marvin Minsky at MIT.

20. What missing language element of ALGOL 60 damaged its chances for widespread use?

Simple understanding and efficient implementation.

25. What organization was most responsible for the early success of COBOL (in terms of extent of use)?

The department of defense.

36. What is a nonprocedural language?

Nonprocedural languages do not state how a result is to be computed but rather the necessary form and/or characteristics of the result. Prolog is a nonprocedural language.

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 applets for Web documents.

51. For what application area is JavaScript most widely used?

Validating form input data and creating dynamic HTML documents in web programming.

52. What is the relationship between JavaScript and PHP, in terms of their use?

PHP is used on server-side code and Javascript is used more on client-side code.

57. What deficiency of the **switch** statement of C is addressed with the changes made by C# to that statement?

Reliability being traded for flexibility.

59. What are the inputs to an XSLT processor?

An XML data document and an XSLT document.

60. What is the output of an XSLT processor?

An XML document.