

## Homework 2 Q2

2. Plankalkül included arrays and records as fundamental data structures.
5. In the early 1950s, the slow interpretation of programs was acceptable because most computers lacked floating-point hardware, and batch processing was standard practice. Since computation already took a long time, the advantages of using high-level programming languages outweighed the slower execution speed.
6. The floating-point arithmetic hardware introduced in the IBM 704 greatly influenced programming languages. Before this, floating-point calculations had to be done in software, which was inefficient and time-consuming.
7. The Fortran design project began in 1954.
8. At the time Fortran was designed, computers were primarily used for scientific computations.
9. The control flow statements in Fortran I were derived from IBM 704 machine instructions.
10. The most significant enhancement in Fortran II was the introduction of independent compilation for subprograms.
11. Fortran 77 introduced the IF-THEN-ELSE construct and the DO WHILE loop as new control flow statements.
14. Linguists became interested in artificial intelligence in the late 1950s to develop natural language processing systems, particularly for automatic translation.
15. LISP was developed at Massachusetts Institute of Technology (MIT) by John McCarthy.

20. The lack of input/output (I/O) facilities in ALGOL 60 limited its widespread adoption.
21. The syntax of ALGOL 60 was described using Backus-Naur Form (BNF).
22. COBOL was based on the programming language FLOW-MATIC.
23. The design process for COBOL began in 1959.
24. COBOL adopted hierarchical records (nested data structures), a concept that originated in Plankalkül.
25. The U.S. Department of Defense played a major role in COBOL's early success by promoting its widespread use.
36. A nonprocedural language allows the programmer to specify what should be done rather than how to do it. An example is SQL.
37. A Prolog database consists of two types of statements: facts and rules.
46. The first major application of Java was programming consumer electronic devices.
51. JavaScript is primarily used in web development, enabling dynamic and interactive web pages.
52. JavaScript is mainly used for client-side scripting, while PHP is used for server-side scripting, making them complementary technologies in web development.
57. In C#, the switch statement was improved to prevent accidental fall-through between cases, a common issue in C.
59. An XSLT processor takes two inputs: an XML data document and an XSLT stylesheet.

60. The output of an XSLT processor is a transformed XML document.