1) Make an educated guess as to the most common syntax error in Lisp programs.

Ans: Unmatched parentheses is the most common mistake.

2) Lisp began as a pure functional language but gradually acquired more and more imperative features. Why?

Ans: The main reason why imperative features were put in LISP was to increase its execution efficiency.

3) Outline the major motivation of IBM in developing PL/I.

Ans: Provide a single tool that must support both scientific and commercial applications. IBM believed that the needs of the two classes of applications were merging, at least to some degree. They felt that the simplest solution for a provider of systems, both hardware and software, was to furnish a single hardware system running a single programming language that served both scientific and commercial applications.

4) What are the arguments both for and against the idea of a typeless language?

Ans: Their great flexibility for the programmer. Literally any storage location can be used to store any type value. This is useful for very low-level languages used for systems programming. The drawback is that type checking is impossible, so that it is entirely the programmer's responsibility to insure that expressions and assignments are correct.