The Development of LISP
Topic Paper #13

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ABSTRACT
This paper describes the development of the Lisp programming language.

Keywords
LISP, List, Programming, Language

1. INTRODUCTION
LISP is a parenthetical, list-based set programming languages that have been in use for over fifty years and has many different dialects. While the original language called LISP was a programming language, references to Lisp now are more commonly understood to be references to the two most common dialects: Common Lisp and Scheme. Lisp dialects have always been largely for educational and programming learning purposes.

2. THE HISTORY AND THE CONCEPT
LISP, a programming language making its first appearance in 1958, was first implemented by Steve Russell on an IBM 704 and is short for "LISt Programming language." The first compiler was completed in 1962 [2].

Since it's beginning, dialects have emerged, split, joined, and died off in both reasonable and complicated ways. Lisp has always been a language of dialects that are very simple to expand upon without having to rewrite the language from scratch, and the cleverness that often comes from these dialects is friendly to many hackers [3], especially due to Lisp's functional nature.

LISP was developed partially as a programming language rendition of the assembly language IPL (Information Processing Language) [2]. IPL was known for its use in AI (Artificial Intelligence), as is LISP. It was once believed, and the belief was one of the major proponents to LISPs development, that every thought process that the human brain enacted could be implemented in a series of lists. This being the case, Lisp dialects have made frequent appearances in AI programming.

3. VARIANTS
The most common dialects of Lisp are Common Lisp (appearing in 1984) and Scheme (appearing in the 1970s), Scheme itself having numerous dialects as well. However, there have been countless other variants through the years.
The direct descendent to the earliest LISP 1.5 was MACLISP (baring no relation to the modern Apple, Inc.), which ran on the PDP-10 and Multics (the precursor to the Unix system) systems. Separately, while MACLISP was developed at MIT, InterLisp was also developed for the PDP-10 at BBN Technologies; MACLISP and InterLisp were heavily competitors at the time, and InterLisp was adopted as the West Coast Lisp.
LeLisp was a French rendition of the Lisp programming language, and one of the first interfact builders was written using it.
Like Python's modern Jython, Lisp has a dialect that runs on the JRE (Java Runtime Environment) called Clojure.

4. CONCLUSIONS
There are over twenty dialects that are regularly associated with Lisp, though there are many more that are not so common. Lisp is a good starter language that will unlikely ever disappear, much to the distress of many who despise it and much to the pleasure of those who enjoy it. Despite it's obscure list syntax, the language does present endless possibilities in the area of functional programming and AI.

5. REFERENCES
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