

Artificial Intelligence Project---RLZ and MIT Computation Center

Symbol Manipulating Language --Memo 2

A REVISED VERSION OF "MAPLIST"

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The version of maplist in memo 1 was written "maplist(L,J,f(J))" where J is a dummy variable which ranges over the address parts of the words in the list L and $f(J)$ was an expression in J. This version had two serious defects. First, the location of the word in which J was stored was frequently needed. The ~~xxx~~ second ~~ix~~ turned up when I tried to write the SAP program for maplist. The designation of J as the name of the indexing variable cannot conveniently be done in the calling sequence of maplist. Instead we do it in specifying the function f using the Church λ notation for functional abstraction if necessary. In addition to the above mentioned defects the old version was ambiguous in that it did not say how words of the three types should be treated.

The new maplist is written "maplist(L,f)". Its value is the location of a list formed from free storage whose elements correspond in a 1-1 way with the elements of L. The element of the new list which corresponds to the element of the old list in location J has address part $f(J)$ and always has indicator 2. The new maplist thus always

~~produces a list of lists.~~ This lack of