

STANFORD ARTIFICIAL INTELLIGENCE PROJECT  
MEMO NO.4

August 2, 1963

CLOCK FUNCTION FOR LISP 1.5

by Horace Enea

Abstract: This paper describes  
a clock function for  
LISP 1.5

The following functions will define an atom called CLOCK.

The value of clock is the current time at any instant:-

```
CSETQ (CLOCK 10)
```

```
EVAL ((RPLACD CLOCK (CADR 77773Q)) NIL)
```

The constant 77773Q is the complement of the location of the core clock, cell 5 on the 7090.

Note that the following use will not give the desired result, a variable, T1, which retains the value of the clock when it was called:-

```
SETQ (T1 CLOCK)
```

This results because the value of T1 is a pointer to cell 5 which is continuously changing.

The following function has the desired result:-

```
(TIME (LAMBDA NIL (PLUS CLOCK 0)))
```

Note that SETQ (T1 (TIME)) produces the desired result because a special cell is created to hold the value of CLOCK + 0 which will not change with time.

HE/AFG.