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Executive Editor

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R. Hyatt.

Dear Robert,

I am an employee of the Lawrence Radiation Lab, here at Livermore, working with the CRAY-1 computers. I have recently received a copy of BLITZ version 6 which I and Steven Williams are trying to make available here under the Livermore Time-sharing environment, using our system (not COS). My goal is to have available a version of Blitz which is well adapted to time-sharing and requires only occasional seconds of CPU time, in normal use.

In addition, I would like to produce a version specifically adapted to solving chess problems. In particular, the current version is not able (as far as I can see) of solving a mate in three, in the case that it turns up a mate in four first, in its search. I would be interested in any suggestions you might have in this regard and also suggestions that would help us locate those routines which one could avoid calling if one's only goal is finding a mate in "n".

In the process of working with the code, using methods available under our system but not under COS, we have found that the program spends over ¼ of its time in subroutine ATTACK. I rewrote this short function in CAL assembly language and was able the reduce the time in Attack by 75%. Additional easy gains in speed were made by changing the mod function to in-line code. The result is about a 25% overall improvement in the time needed to solve test problems.

For example, the time required to find the mate in three for Sam Loyd's problem No. 14 (page 22 of Allain S. White's: "Sam Loyd and his Chess Problems", Dover, 1962) was reduced from 7.60 to 5.65 seconds. In Blitz notation the setting is /1kN3Q/1p/2p///5K/1R/, where, as usual, Blitz is in Caps and moving down the board. (Also see enclosed picture taken from our display scope.)

Steve and I would enjoy the opportunity of working with you on some of the matters mentioned above or others. In this regard, if you intend to be in the California area, we can arrange to have you give a couple of (paid) lectures to our local branch of the Univ. of Cal. about the program and could probably find the funds to cover some of the travel expense involved. Should such an arrangement interest you, please so inform.

Harry

Our error as yet unresolved (happens when white is at top)