

#### 6.4. Universal Book Opening

It is possible to play the move 1. ... e5 as a response to any opening move by White other than d4, f4 or Nf3. Consequently the move e5 can be used as a 'universal' book response for any opening move not found in the book opening library, provided that replies to d4, f4 and Nf3 have been stored.

In practice, this universal book move should be stored separately from the book-opening library, and considered only if the program exits from the library without a match after White's first move.

My own chess program opens a game as White with a move selected at random from e4, d4 and c4 without reference to the book-opening library.

#### 7. PERFORMANCE

The Amateur Book routine described here works perfectly on an Atari 130XE domestic microcomputer (6502 CPU at 2 MHz; 64K RAM). Moves are made, inclusive of transpositions, within half a second per book move without the 'book window'; virtually instantly with the 'book window'.

Changes to the book opening are easily made by altering the word-processor text file. The same file can conveniently be read for checking or proofreading.

#### 8. REFERENCES

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Nelson, H.L. (1985). Hash Tables in Cray Blitz. *ICCA Journal*, Vol. 8, No. 1, p. 6.

Spracklen, K. (1983). Tutorial: Representation of an Opening Tree. *ICCA Newsletter*, Vol. 6, No. 1, pp. 6-8.

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