Fortunately, while the architecture is interesting, the book isn't very good. The author, presumably an inexperienced writer, has gotten little help from the publisher. What began as a distinguished Ph.D. thesis, a finalist in the 1985 ACM competition, has become little more than a bound reprint of that thesis.

In my copy, marked "Third printing, 1986," I noted typographical errors on 20 of the 190 pages, sometimes several on a page. These are not just extra or missing words or characters that can be corrected from the context. In several cases they occur in formulas, which turns them into gibberish. Another example is the philosophical chapter discussing why computer science isn't enough like physics. Every first-time author wants to put in irrelevant philosophy, and it's the job of a good editor to restrain this impulse.

All this aside, the book contains interesting material, although some of it is difficult to understand without a smattering of LISP. A connection machine is a large collection of small processors, connected by a programmable communications network. The prototype machine described in the book contains 65,536 processors, each with 4096 bits of memory and a serial ALU. These are connected in a 12-dimensional hypercube. A custom VLSI chip contains 16 processors, 32 of these chips and their associated memory fit on a single PC board, and 16 of these boards are connected by a single backplane. Eight backplanes are packaged in four racks. The first nine dimensions of the interconnection hypercube are realized in the VLSI chip, on the PC boards, and along the backplanes. The remaining three dimensions require nearly 200,000 wires, run on controlled impedance flat cables. The machine dissipates 12 kilowatts at 4 MHz.

All these connections allow individual processors to be grouped into "active data structures," and this is where LISP enters. CMLisp (Connection Machine LISP) introduces xectors, alpha notation, and beta reduction into Common Lisp to handle these active data structures, but you'll have to read the book if you want to know how it all works.

What I like best about the book is its excellent annotated bibliography. If you can use such a bibliography in your library, you should consider buying the book. Otherwise just borrow a copy or look for a magazine article to satisfy your curiosity about connection machines.

*The IBM PC-DOS Handbook,* Richard Allen King (Sybex, Berkeley, 2nd ed., 1987, 340 pp., $18.95)

This is a wonderful book for the sophisticated computer user who wants to work in the IBM PC environment. It's concise and doesn't attempt to supplant the manuals that accompany the PC. Rather it gives you the key facts you need and points you to the useful portions of the standard manuals. The book is divided into two parts: a programmer's manual and a user's manual. The former is more "technical" than the latter, but both are aimed at sophisticated readers.

The overwhelming impression you will get on reading this book is that you are being led through the maze of PC-DOS (most operating systems are mazes) by a person who has seen everything. The author has apparently made (or at least seen) every blunder there is, and he wants to help you avoid them all. And this advice does not stop at DOS hints; there are many words of wisdom on developing applications, words that should not go unheeded by the budding developer.

One of the main reasons that this book is easy to use is that the author writes in an informal, unaffected style. He simply says what needs to be said, in plain language, occasionally with humor, never pompously or condescendingly, even when giving advice. If you need to work in the PC environment, or if you just want to know how to write a book for programmers and "power users," read this one.

**Software reviews**

I hope to look at interesting software in these columns: programs and packages of the sort that will be of special interest to *IEEE Micro* readers. I have some thoughts about what those programs would be, but if you'd like some input into the selection process or if you just have some requests, let me know by writing a note on the editorial response card. Especially let me know if you're interested in hearing about desktop publishing software that could help with the occasional demand for a camera-ready conference paper.

MacInTax (Softview, Camarillo, CA, 1987, 3 disks, $99.00, updates $45.00)

Just yesterday, too late for a really thorough review, I received the 1986 MacInTax program for federal income tax preparation. After very little playing around with it, I've found it to be a truly useful program (for those using a Macintosh and having to pay US taxes).

MacInTax is essentially a set of linked spreadsheets displayed in exact replicas of the forms you need to file. When you're done, these forms can be printed on an Imagewriter or laser printer. All instructions are on line. Any item can be itemized and computed in a separate work area. (For example, if you worked for several employers, you can open a work area for itemizing your 1040, line 7, Wages, salaries, ... ) There are a few slightly tricky points, like how to get your Schedule C linked in, but I figured them all out in about 15 minutes of playing around—before reading the manual in which they are all clearly explained.

According to the press kit the company sent me, MacInTax has won many awards, and I've certainly read extravagant reviews of it. No doubt it will simplify the mechanics of filling out your tax forms. Anyone with moderately complicated taxes should consider it, but I think that the average engineer or programmer ought to think twice about whether the simplification is worth the price. If you use Excel, you can find public domain templates to do a lot of the computational support.

**Next time**

The deadline for the June issue will be upon me before you have a chance to read and react to the requests for feedback that I've made in this issue, but I hope that the contents of future columns can reflect your inputs. In June I'll be looking at some of the many books on Unix, and I'll review some of the IBM PC and Macintosh software that have come my way.

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