

On Using a Personal Computer for a Practical Purpose

Editorial

by Carl Helmers

Finally, it had to happen to me. We all know that personal computers are supposed to be a cross between a necessity and a luxury. But the critics tend to harp on our tendency to get carried away by the fun and to ignore the practical uses of our wonderful servants. As if to answer that justified criticism, I finally came up with a genuine practical use for a small computer in the monthly operations of BYTE's editorial office. Now this practical application is by no means the kind of automated editing

and type preparation facility I would like to have some day if and when I ever become rich and famous. But this is a genuine, once a month, cyclically run application program.

At BYTE, we have so far purchased two Apple II computers (among others) for use in educating our employees, and in order to have some facilities around the office. One of these Apple II computers sits in my office, and at the time of this exercise

Continued on page 147

Rank	Topic	Total Weighted Count	Standard Deviations Away from Mean
1	Applications to everyday life	12888	2.178
2	Household automation with computers	12886	2.177
3	Personal data base design and implementation	10911	1.179
4	Applications to personal business	10683	1.064
5	Voice recognition by computers	10654	1.049
6	The art of programming	10552	.997
7	Logical games (require much thinking, no dexterity)	10277	.858
8	Voice synthesis with computers	10014	.725
9	The art of hardware design	9875	.655
10	Computer control of mechanisms	9832	.633
11	Graphics software design	9707	.570
12	Artificial intelligence: general interest in AI	9523	.477
13	Action games (require much thinking, no dexterity)	9465	.448
14	Educational uses of computers	9439	.435
15	Computer system design	9311	.370
16	Text editing and processing	9233	.330
17	Graphics hardware design	8876	.150
18	Applications of computers to engineering	8766	.092
19	Experimentation with designs	8723	.073
20	General robotics: whole systems	8642	.032
21	Applications of computers to physical science	8593	0.
22	Chess and computers	8553	-.013
23	Computer communications networks	8424	-.079
24	Simulations of real or mythical situations	8315	-.134
25	AI: pattern recognition	8221	-.181
26	Design of information structures	8111	-.237
27	Use of graphic displays for artistic purposes	7556	-.517
28	Mathematical analysis and algorithm design	7551	-.520
29	Language design	7534	-.529
30	Compiler or interpreter design	7273	-.669
31	AI: representations of knowledge	6982	-.848
32	AI: Natural language parsing	6531	-1.035
33	Computers used for musical purpose: real time performance	6477	-1.062
34	Applications of computers to biological sciences	5785	-1.412
35	Amateur radio and computers	5369	-1.623
36	Computers and music: stochastic composition	5138	-1.739
37	Application of computers to social sciences	4745	-1.938
38	AI: theorem proving	4686	-1.968

Table 1: Respondents were asked to assign a numerical preference from 0 (no interest) to 10 (highest interest) for each of these 38 categories. The column labelled total weighted count contains the sum of counts in each possible response (1 to 10) multiplied by the response itself. Thus if a count of 29 were found in the interest weight 7 for some category, the contribution to the weighted sum would be $7 \times 29 = 203$. The standard deviation and mean were calculated for the data, and the deviation from the mean was expressed in the rightmost column in units of one standard deviation for each category. These data were "output" to a typewriter from the screen of the Apple II using a manual process, then typeset in the usual method.

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Continued from page 6

it had only the usual audio tape cassette interface for mass storage, and television for display purposes. (I have since ordered and received a floppy disk drive, which was plugged in and working within five minutes of setup.)

The immediate spur to writing this practical program was the need to analyze the editorial preferences section of the BYTE 1978 reader survey. This section, like the monthly BOMB analysis of articles in BYTE, gave a number of entries for which the respondent to the survey indicated a preference on a scale of 0 to 10. In the case of the survey, my goal was to find out what readers were interested in, so there was a list of 38 categories of interest to be rated 0 to 10. Each respondent's individual scale differs, but the idea here is to average the ratings of a large number of individuals and thus approximate an overall preference

ranking. In the case of the survey, 2457 people responded out of 5000 subscribers picked at random from our mailing list.

In our monthly BOMB analysis, the ratings are acquired by the time-honored method of tallying with strokes on paper in groups of five strokes. Thus when Wai Chiu Li takes a monthly break from his normal job of "final paste" preparation for BYTE in order to tally the BOMB cards on a large sheet of paper, he accumulates strokes, thus:

||||

In the survey analysis, with 2457 forms returned, our data processing contractor, Systemetrics, performed the keystroking of data and produced a report giving a count for each rating 0 to 10 in the 38 different categories of the preference survey.

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