using categorized pictures, one run selected the serial position to be tested on each trial, a second run selected test pictures for those positions, and a third filled in the remaining serial positions.

In solving some of these problems, several options have been developed. One option allows the selection of multiple events per trial, so that all pictures used as study stimuli on a given trial can be selected on one run. Another option allows for the specification of varying degrees of restrictiveness in the final solution. The researcher can specify a perfect solution for problems of low and medium difficulty, but allow an approximate solution with very difficult problems. A third option allows the researcher to determine how the program will operate when a back-up is required: either back up one trial at a time or, after a specified number of one-step back-ups, start over at the beginning of the block.

RRP, as listed in Fig. 2, will accept problems with up to 40 individual events to be randomized, 40 blocks, 40 trials per block, 10 events per trial, and 5 two-way tests. With these maxima, RRP requires approximately 200K for the FORTRAN G compiler on the IBM 370/65 at the Southwestern Ohio Regional Computing Center (SWORCC). The storage space would be reduced considerably if the user reduced these maxima.

In order to illustrate the expected performance of RRP, a series of test runs were conducted. The parameters for these tests were chosen to span the parameter values we have typically used. All problems had five blocks, with three factors and three levels per factor, 27 trials per block. The parameters were a factorial combination of 1, 2, and 3 one-way tests, 1, 5, and 9 events per trial, and 12, 18, and 30 events to be randomized. Each problem began with a different randomly selected seven-digit odd integer and was restricted to 30 sec CPU time. The CPU times for these problems are shown in Table 1. The tests were run on the IBM 370/65 at the SWORCC at the University of Cincinnati. Table 1 may be useful in estimating cost, since CPU time is a major expense at most university

Table 1
Test Run CPU Times (Seconds) on GO STEP
of FORTRAN G Compiler

N*	Number of Events in Item Pool		
	12	18	30
One Test			
1	3.05	1.80	2.53
3	3.46	2.19	2.81
5	3.72	2.52	3.16
Two Tests			
1	5.26	2.81	4.27
3	9.41	6.37	10.88
5	9.72	5.96	11.48
Three Tests			
1	4.30	4.72	4.78
3	7.67	8.56	11.11
5	> 30.00	> 30.00	20.28

*Number of events per trial

computer centers. The tests also provide some indication of "easy" and "hard" problems for RRP.

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NOTE

1. It should be recognized that the more the restrictions put on the randomization, the more difficult the solution, and the user may overspecify the sequence so that no solution is possible.

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ERRATUM

Carlson, V. R., and Knight, J. SCV—A general sub-routine for the selection of combinations of variables. *Behavior Research Methods and Instrumentation*, 1973, 5, 425-427—Table 2 should read as follows:

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ICND(I) = 1
DO 100 J = 1, NVAR
100 ICND(I) = (ICND(I) - 1) * NALT(J) + MALT(J)

```