computer. The automorphism group of each latin square was worked out by studying cycle structures; in all five cases the groups were not really small. Lines were put into equivalence classes under the automorphism group. Finally, judicious use of preferences helped considerably in trimming down the size of the search. Again as in [2], it seemed most efficient to classify initially all admissible sets of lines through one point of the affine plane. One feature was easier than in [2]: whenever a plane was completed, it could be recognized (by the results of [2]) as a known plane if one of the latin squares displayed was the group, it being unnecessary to determine *which* known plane it was. In some eight cases exactly this happened; one case was a bit more stubborn, requiring projective completion and recoordinatization to yield a group square.

The computers used by the authors were respectively UNIVAC 1206 and SWAC. The effort was less a true collaboration than a division of labor arrangement.

The authors express thanks to Professors Gordon Pall and Esther Seiden for helpful suggestions relevant to this project.

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# The First Power of 2 With 8 Consecutive Zeros

## By E. Karst and U. Karst

The existence proof for a string of $k$ zeros within $2^n$ (in decimal notation) was recently given in [1]. Where those consecutive zeros occur the first time is another matter. We have written and run a fast program for the standard IBM 1620, discovering on January 1, 1964 the first string of 8 zeros, at $n = 14007$, after 1 hr. 18 min. There were no string of 9 zeros of $2^n$ up to $n = 50000$, which limit was reached after 13 hrs. 37 min. The first occurrences of 4, 5, 6, and 7 consecutive zeros, at $n = 377, 1491, 1492,$ and $6801$, respectively, as noted by Gruenberger [2], were checked and found correct. The string of 8 zeros in $2^{14007}$ starts at the 729th decimal digit position, reading from right to left.

*Added in proof.* On May 1, 1964, $n = 60000$ was reached. It takes now about one hour machine time to raise this upper bound by 2000.

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