Therefore, the Fibonacci congruence relation is true for any prime p and any integer n. The Lucas congruence relation can be proved by an argument similar to that given above.

## PALINDROME CUBES

*B-183 Proposed by Gustavus J. Simmons, Sandia Corporation, Albuquerque, New Mexico.*

A positive integer is a palindrome if its digits read the same forward or backward. The least positive integer n, such that $n^2$ is a palindrome but n is not, is 26. Let S be the set of n such that $n^3$ is a palindrome but n is not. Is S empty, finite, or infinite?

*Comment by the Proposer.*

Since $2201^3$ is the palindrome 10662526601, S is not empty. This is all that is known about the set S.

[Continued from page 506.]

| | | |
|---|---|---|
| a = 29 | b = 35 | c = 48 |
| 30 | 113 | 113 |
| 31 | 97 | 120 |
| 32 | 65 | 65 |
| 33 | 34 | 65 |
| 34 | 145 | 145 |
| 35 | 73 | 102 |
| 36 | 61 | 65 |
| 37 | 37 | 70 |
| 38 | 181 | 181 |
| 39 | 41 | 50 |
| 40 | 101 | 101 |