



1. Find the largest three-digit number which is not a multiple of 3, but is a multiple of the sum of its digits.
2. A town has eight neighborhoods named $S, T, A, N, F, O, R,$ and D . The town mayor plans to rename every neighborhood using each of the letters $G, A, S, H, W, O, R,$ and M once. In how many ways can the neighborhoods be renamed such that no neighborhood has the same name before and after the renaming?
3. The numbers $1, 2, \dots, 9$ are put in a 3×3 grid. Below each column, Alice writes the product of the three numbers in that column, and she adds up her three results to get A . Besides each row, Bob writes the product of the three numbers in the row, and adds his three results to get B . Given that A is as small as possible, what's the maximum possible value of B ?