

Observe that 2003 equals  $-1 \pmod{4}$ , since  $2003 = 2004 - 1$ , and 2004 is a multiple of 4. Therefore  $2003^{2003} + 1$  equals  $(-1)^{2003} + 1 = 0 \pmod{4}$ , that is,  $2003^{2003} + 1$  is a multiple of 4 and hence a leap year, unless it is a multiple of 100, but not of 1000. This is not the case since a number ending in 3 has powers ending in 3, 9, 7, and 1 respectively. Therefore  $2003^{2003} + 1$  ends in  $7 + 1 = 8$  and hence is a leap year.

*Any other alternative, correct solution earns full credit.*