



Problem of the Week

Problem E

Jumbled Numbers 2

Imani wrote a program that switches digits in numbers. Users enter a 4-digit number and then use red **R**, blue **B**, and yellow **Y** buttons to switch digits in the number as follows:

Button	Function
R	switches the thousands and tens digits
B	switches the hundreds and units (ones) digits
Y	switches the thousands and units (ones) digits

Imani determines all possible results when the number 1234 is entered and a sequence of 0, 1, 2, 3, or 4 buttons is pressed. She records these results in a list.

How many different results, *not* on Imani's list, can be obtained when the number 1234 is entered and a sequence of exactly 5 buttons is pressed?