



# Problem of the Week

## Problem C

### Digit Swapping

Ali programs three buttons in a machine to swap some digits in a 4-digit number.

- Red button: swaps the first and third digits
- Blue button: swaps the first and second digits
- Yellow button: swaps the second and fourth digits

Ali types a 4-digit number into the machine. She then presses the following sequence of buttons to produce 6943 as the output.

Red Yellow Blue Red Yellow

What would the output have been if Ali had instead pressed the following sequence of buttons after typing in her original number?

Blue Red Yellow Blue

