

- Let  $A = B = \{0, 1, 2, \dots, 9\}$ , and let

$$f(x) = 7x \pmod{10}$$

|        |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|
| $x$    | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| $f(x)$ | 0 | 7 | 4 | 1 | 8 | 5 | 2 | 9 | 6 | 3 |

- Note that every number appears exactly once in the bottom row!
- Therefore  $f$  is a bijection (and a permutation).