Radix Sort

Into & Live Coding
bit.ly/m1501

Sorting without comparison

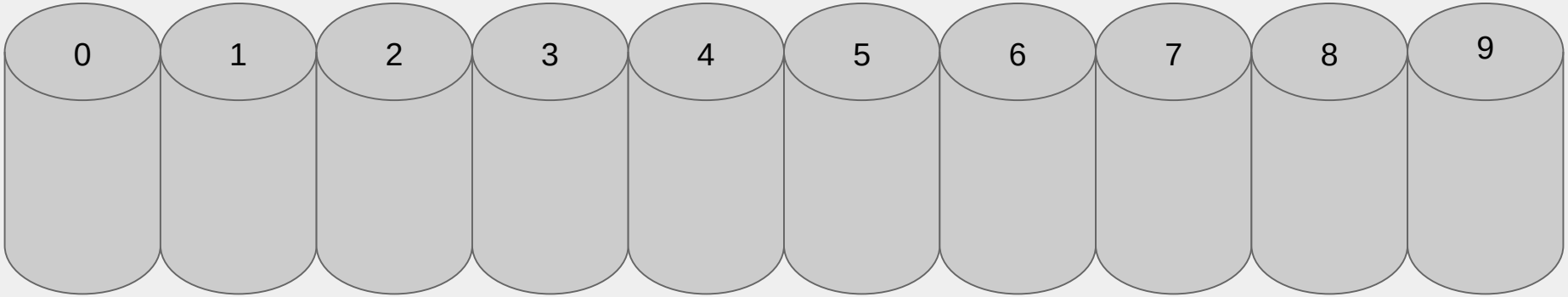
- Consider the following approach:
  - Look at the least-significant digit
  - Group numbers with the same digit
    - Maintain relative order
  - Place groups back in array together
    - I.e., all the 0's, all the 1's, all the 2's, etc.
  - Repeat for increasingly significant digits

Example

- [52, 10, 32, 15, 11]

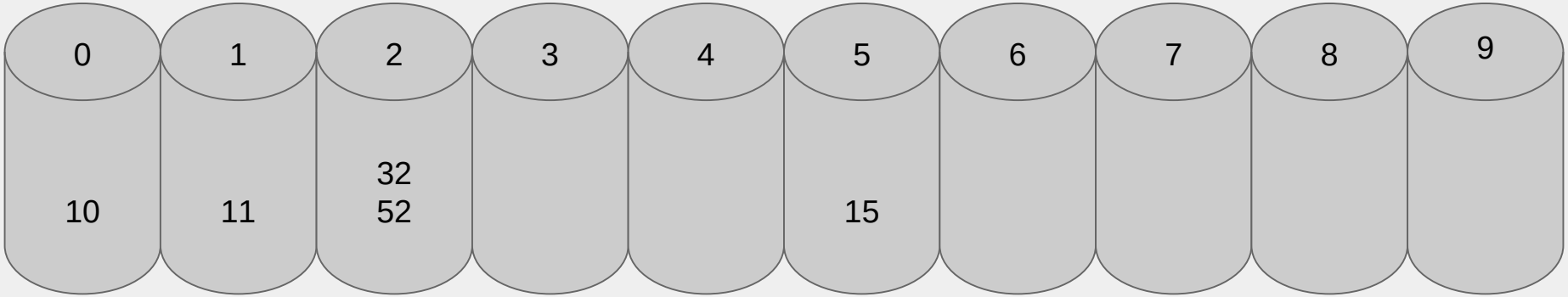
Example

- [52, 10, 32, 15, 11]



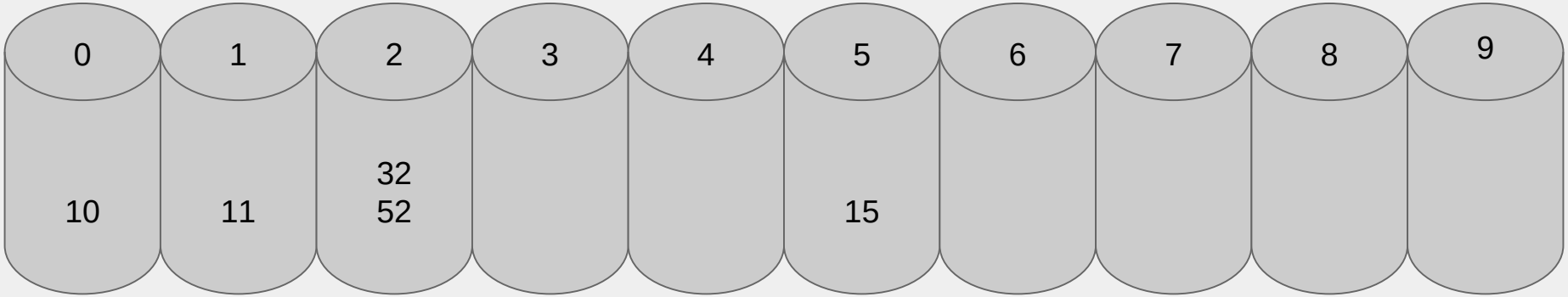
Example

- [52, 10, 32, 15, 11]



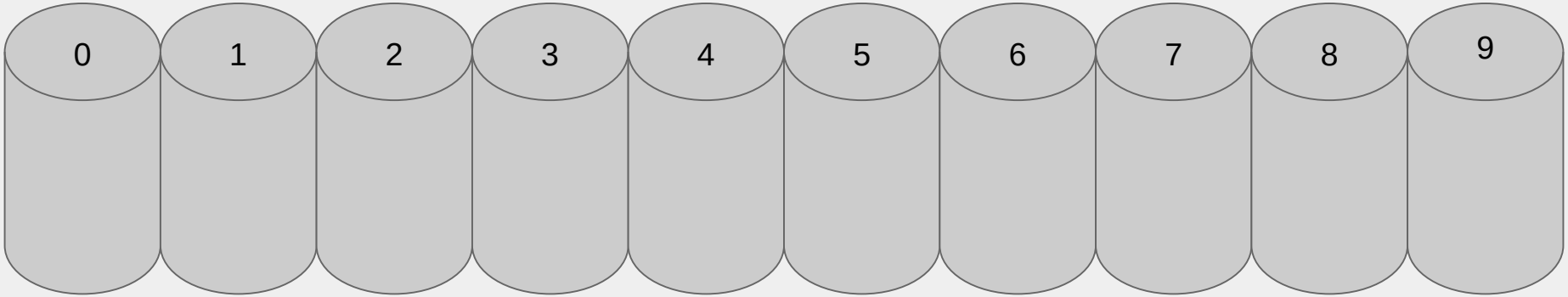
Example

- [10, 11, 52, 32, 15]



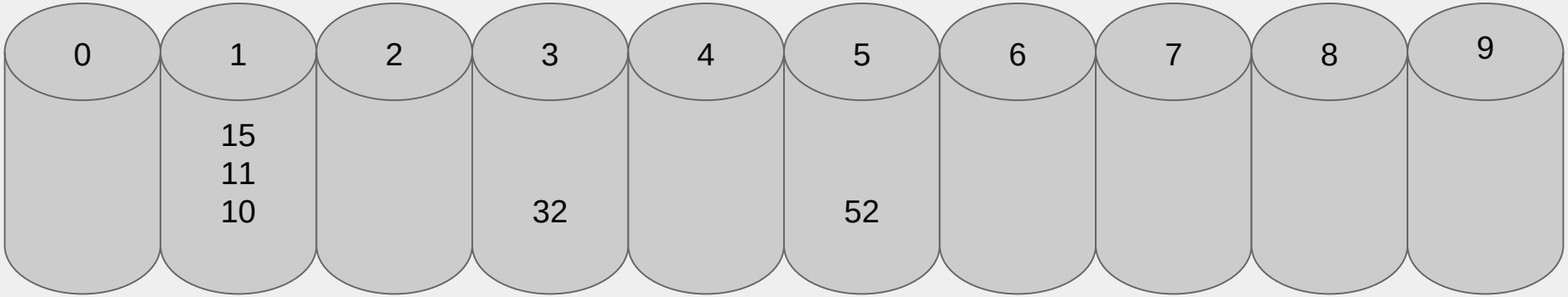
Example

- [10, 11, 52, 32, 15]



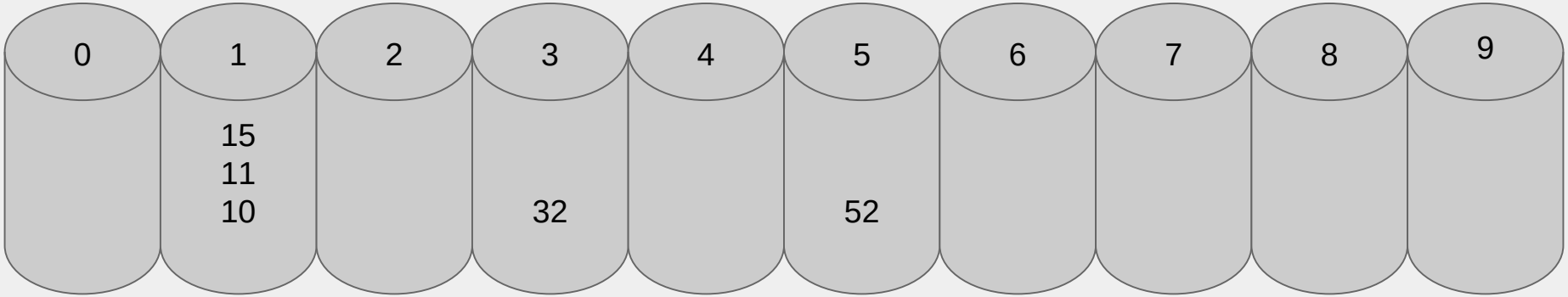
Example

- [10, 11, 52, 32, 15]



Example

- [10, 11, 15, 32, 52]



Think About

- How do we represent these categories or “buckets”?
- How do we access each digit of the numbers?
- Can we/should we handle negative numbers?
- What is the runtime and memory overhead?
- Let’s code!