

## Plus One

We simulate addition starting from the last digit, handling carry properly.

### Idea:

- Traverse digits from the end (least significant).
- If digit  $< 9 \rightarrow$  just add 1 and return.
- If digit  $= 9 \rightarrow$  set it to 0 and carry over.
- If we finish all digits with carry (e.g., 999), we insert 1 at the front.

### Complexity:

This runs in  $O(n)$  time,  $O(1)$  extra space.