

$$\text{add_digit_helper}(L, D) = \begin{cases} \emptyset, & \text{if } L = \emptyset \text{ and } D = 0 \\ D, & \text{if } L = \emptyset \text{ and } D > 0 \\ [(d_1 + D) \% 10] \cup \text{add_digit_helper}([d_2, d_3, \dots, d_n], \\ & (d_1 + D) / 10) \\ & \text{otherwise} \end{cases}$$