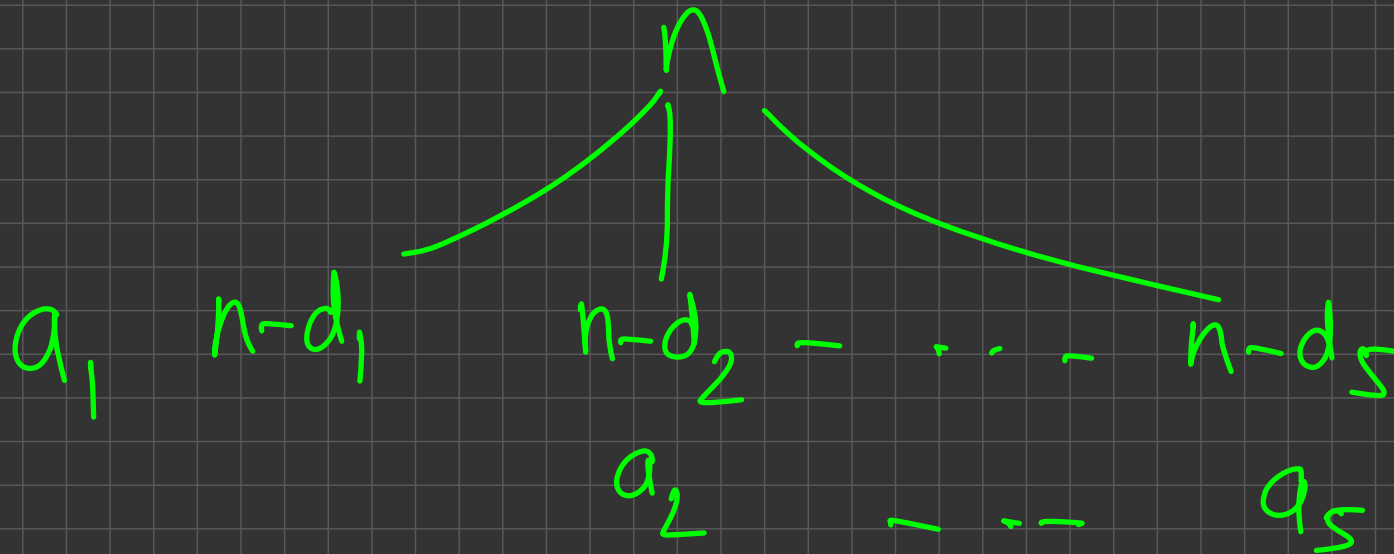


$dp[n] = \text{min steps to convert } n \text{ to } 0$



$$(d_1, d_2, d_3, d_4, d_5) = n$$



$$\underline{\underline{dp[n] = \min \{ dp[n - \underline{d_i}] \} + 1}}$$

$$n = \underline{\underline{1024}}$$

↓

1024

$$\underline{\underline{n \leq 10^6}}$$

Base case

$$\underline{\underline{dp[0] = 0}}$$

$$\underline{\underline{dp[n]}}$$

final subproblem

Time Complexity

#states \times avg T.T

$O(n)$

$O(1)$

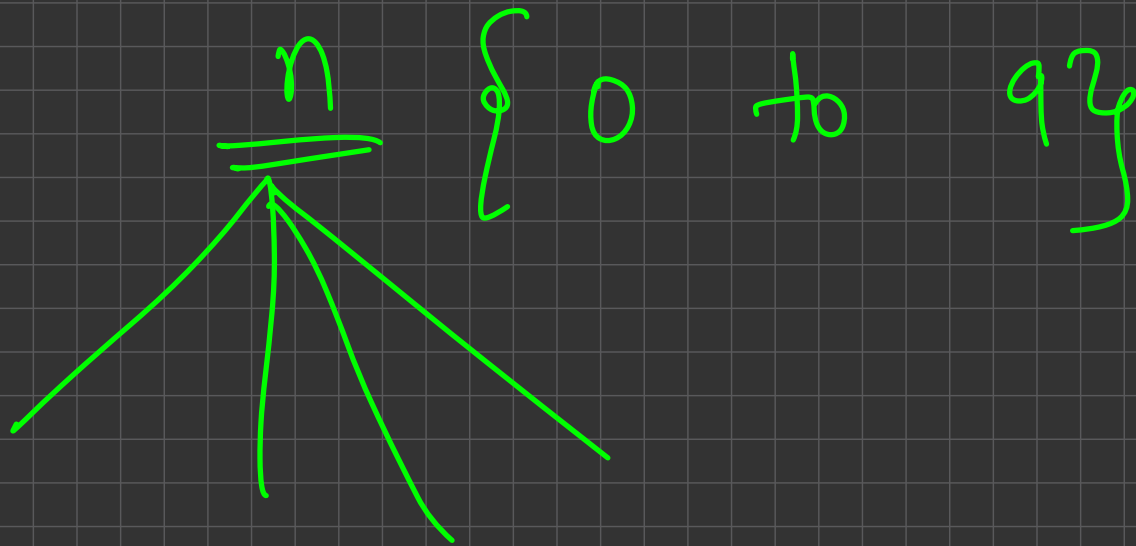
$n \leq 10^6$

\rightarrow 7 digits

$O(n)$

Space Complexity :

states : $O(n)$ \rightarrow $O(9)$ $O(1)$



$n-1$ to $n-9$

$$dp(n) \rightarrow \sum dp(\underline{n - d_i})$$

1 to 9