

Short →
Long →

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Hashing


S_1 S_2
 N_1 N_2

$$O(\min(|S_1|, |S_2|))$$

$$O(1)$$

$h(\text{Object}_1) \rightarrow \text{number}$
 $h(\text{Object}_2) \rightarrow$

Step 1:

'0-9' 
 $S_1 = "12523787621"$
 $S_2 = "23787637"$

$$S_1 = "1[23]45"$$

$$=$$

$$\begin{array}{r} 123 \\ 100 \\ \hline 23 \end{array}$$

$PH[0] = 1$
 $PH[1] = 12$
 $PH[2] = 123$
 $PH[3] = 1234$
 $PH[4] = 12345$

$$\begin{array}{r} 1252378 \\ 1250000 \quad (\times 10^4) \\ \hline 2378 \end{array}$$

$1 \leq Q, N \leq 10^5$
 S_1 S_2
 (12) (78)

$$S_2 = "23145121[23]"$$

$$=$$

$$23$$

$$[1, R] \rightarrow PH[R] - (PH[L-1] \times 26^{R-L+1})$$

$$[L, R] \rightarrow PH[R] - (PH[L-1] \times 26^{R-L+1})$$

$$\frac{N}{M_1 M_2} \quad \frac{N}{MOD} = \frac{10^5}{10^9} = 10^{-4} \quad MOD = 10^9 + 7$$

$$10^5 \times 10^{-4} = 10$$

$$10^0, 10^1, 10^2, 10^3, 10^4, \dots, 10^{x-1}, 10^x, 10^{x+1}$$

$$f(x) = f(x-1) \times \text{base} \quad \begin{array}{c} \uparrow \\ f(x-1) \end{array} \quad \begin{array}{c} \uparrow \\ f(x) \end{array}$$

$$f(0) = 1$$