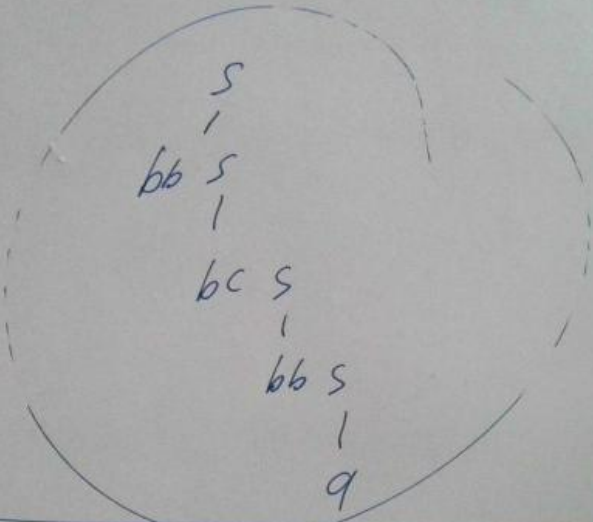


$P = \{s \rightarrow abs, s \rightarrow kas, s \rightarrow bbs, s \rightarrow a, s \rightarrow cb\}$

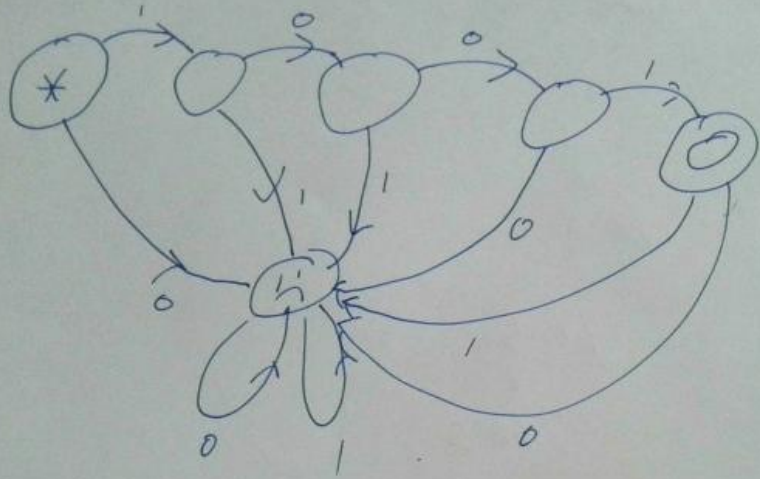
bbbcbbq



---

bb bc bb q  
bb s

1001



~~... B 1101 B P P ...~~  
~~... B 11011 B B ...~~



10) ... BB0110101BB...  
↑    ↑↑ ⇒ ↑

$(S_0, B, S_0, B, R)$

$(S_0, 0, S_1, 0, R)$

$(S_0, 1, S_1, 1, R)$

$(S_1, 0, S_1, 0, R)$

$(S_1, 1, S_1, 1, R)$

$(S_1, B, S_2, 1, R)$

11)  $101000x10011110, B$   
 $\uparrow$   $\uparrow\uparrow\uparrow$   
 $0.0$

$(S_0, 0, S_0, 0, R)$

$(S_0, 1, S_1, 1, R)$

$(S_0, B, S_9, B, R)$

// found a 1

$(S_1, 0, S_0, 0, R)$

$(S_1, B, S_9, B, R)$

$(S_1, 1, S_2, 0, L)$

// found 1?

// check this?

$(S_2, 1, S_9, 0, L)$

$$3 \mid 15$$

$$3 \nmid 16$$

$$\exists i \in \mathbb{Z}: 15 = 3 \cdot i$$

---

$$n! = \begin{cases} n \cdot (n-1)! & n > 1 \\ 1 & n = 1 \end{cases}$$

$P = \{ AB \rightarrow aBBc, \dots \}$

$w_1 \Rightarrow w_2 \Rightarrow w_3 \Rightarrow w_4$

$w_1 \xRightarrow{*} w_4$

$S \xRightarrow{*} w$

$\underbrace{HABX}$

$\underbrace{HaBBc}X$