

$$\llbracket \text{"ABC"} \rrbracket_{RE} = \{ \text{"ABC"} \}$$

$$\llbracket \text{"[ABC]"} \rrbracket_{RE} = \{ \text{"A"}, \text{"B"}, \text{"C"} \}$$

↑ ↑
"META" CHAR

$$\llbracket \text{"[A-Z]"} \rrbracket_{RE} = \{ \text{"A"}, \text{"B"}, \dots, \text{"Z"} \}$$

$$\llbracket \text{"[ABC][^A]"} \rrbracket_{RE} = \{ \text{"AB"}, \text{"AC"}, \dots, \text{"AZ"}, \text{"BB"}, \dots \}$$

SIZE (↑ ↑)
 3 * (26-1)

$$\llbracket \text{"A*"} \rrbracket_{RE} = \{ \text{""}, \text{"A"}, \text{"AA"}, \dots \}$$

$$\llbracket \text{"A?" } \rrbracket_{RE} = \{ \text{""}, \text{"A"} \}$$

$$\llbracket \text{"A+" } \rrbracket_{RE} = \{ \text{"A"}, \text{"AA"}, \text{"AAA"}, \dots \}$$

$$\llbracket \text{"^[AB]+"} \rrbracket_{RE} = \{ \text{"A"}, \text{"B"}, \text{"AA"}, \dots \}$$

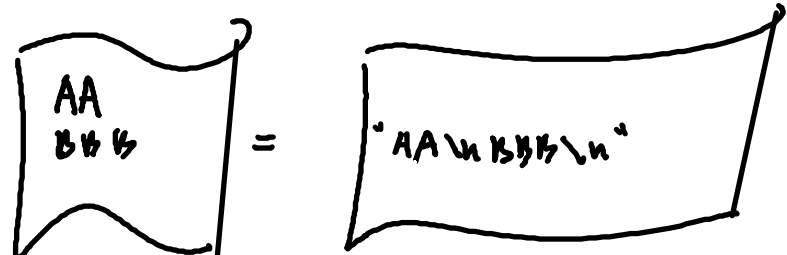
↑
BEGINNING OF STRING

$\llbracket \text{"^X...A\$"} \rrbracket_{RE}$

$\llbracket \text{"A+ \textcircled{\backslash n} B* \textbackslash n"} \rrbracket_{RE}$

↑
NEWLINE

↑
"ESCAPE" CHAR



$\llbracket \text{"A (AB)+"} \rrbracket_{RE} = \{ \text{"AAB("}, \text{"AABAB("}, \dots \}$
 $\neq [A^*]$

$\backslash n$ NEWLINE

$\backslash d$ DECIMAL NUMBER

$[\phi - 9]$

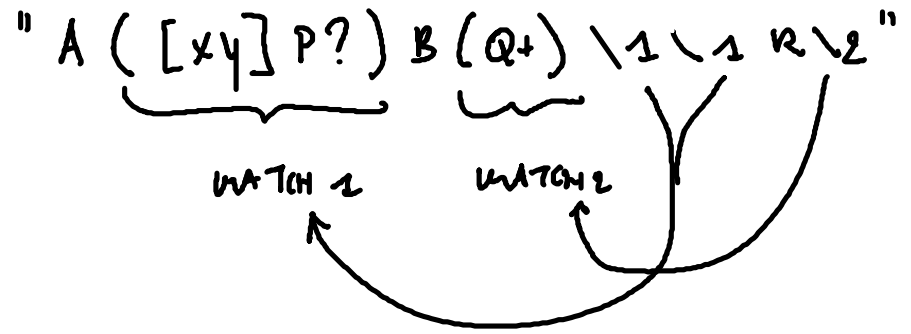
$[\phi - 9]^+$

$[1-9][\phi-9]^*$

$\phi\phi 95$

$\llbracket x | y \rrbracket_{RE}$

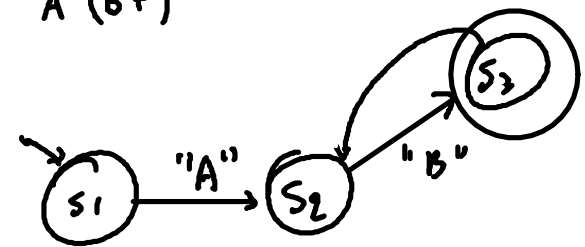
RE



A x P Q Q Q x P x P Q Q Q
 u1 u2

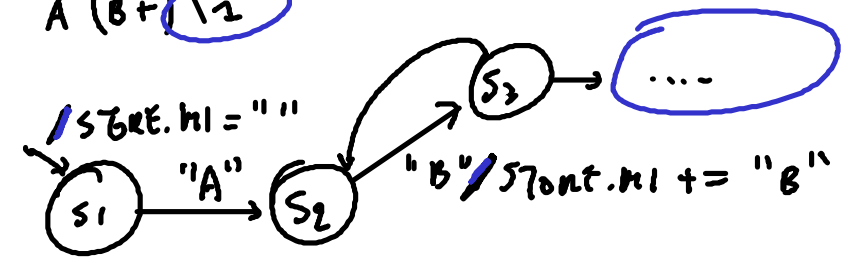
RE

A (B+)

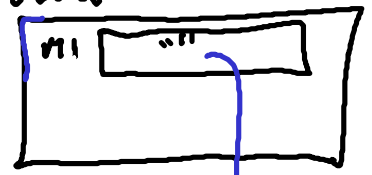


RE

A (B+)¹ \2



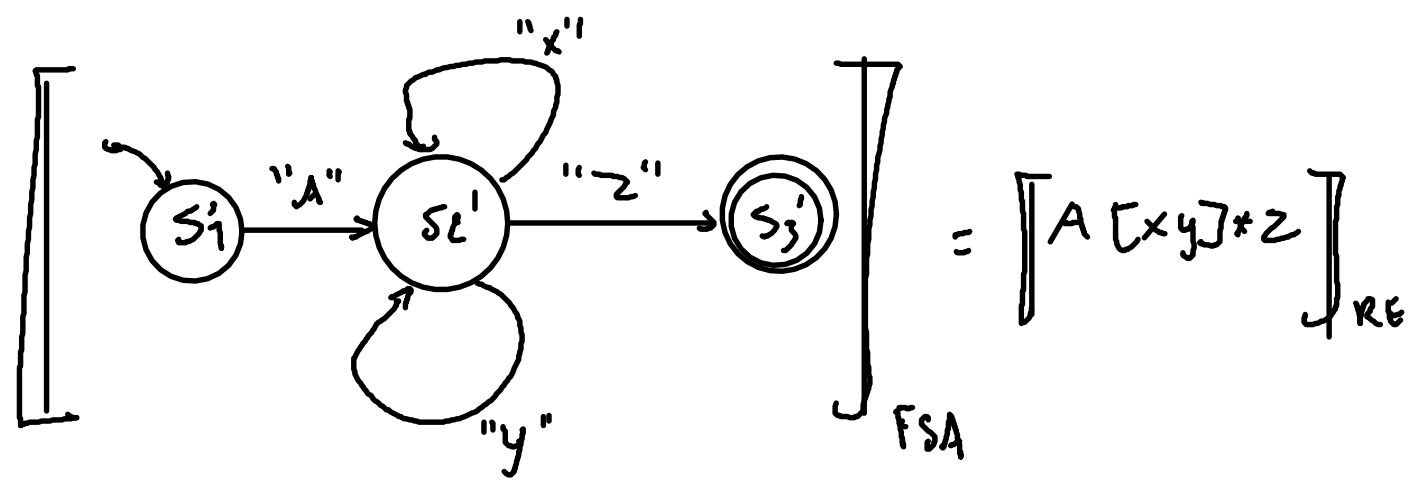
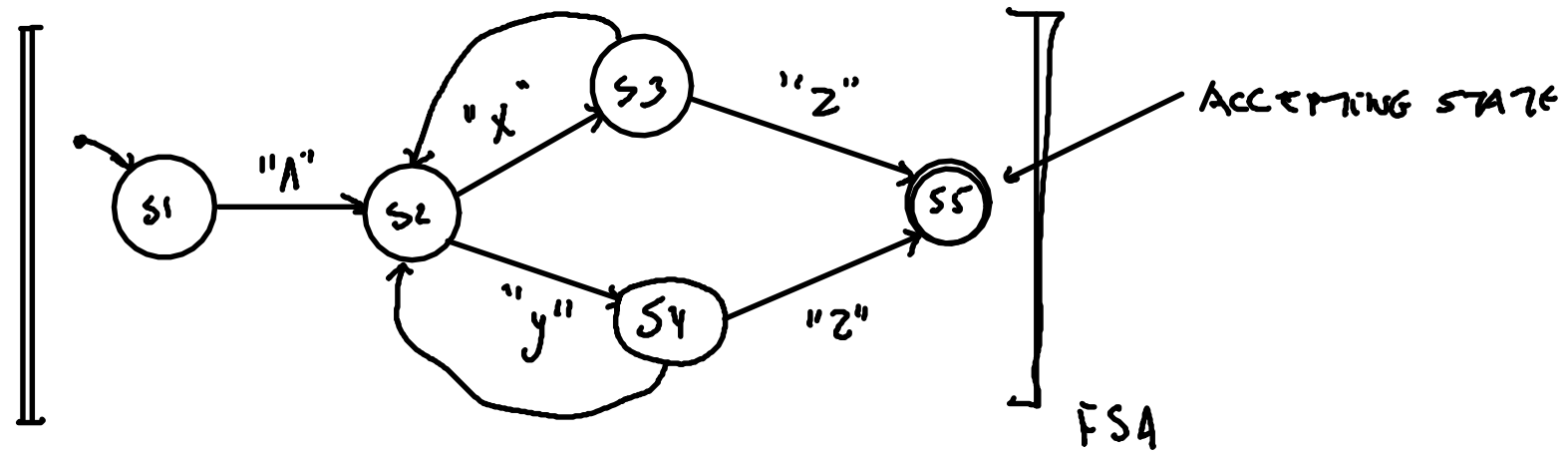
STORE



"B"
 "BB"
 "BBB"

$$\left["A [xy]^* Z" \right]_{RE} = \left\{ "Axz", "Ayz", \dots \right\}$$

"Axyxyz"



RE LIBRARY

{ "A", "B", "C" }

LCHECK = RE.COMPILE("[ABC]")

? = LCHECK.FINDSTR("XABC")



LCHECK = RE.COMPILE("A+")

? = LCHECK.FINDSTR("XAAA")



(1, 3)
↑
pos ← LENGTH

"A"
"AA"
"AAA"

LONGEST / MAXIMAL

INTENSION EXTENSION
L_{"A+"}
∈ ["A+"]_{RE} = { "A", "AA", "AAA", ... }

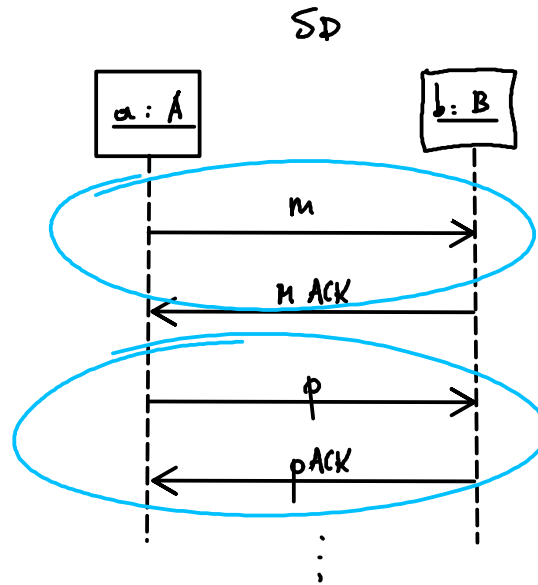
LCHECK = RE.COMPILE("[(A+)(B+)(C+)"])

GROUPING

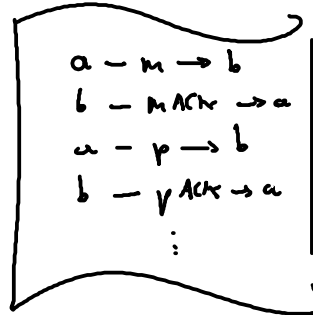
? = LCHECK.FINDSTR("1AAA 2BB 3CCCC")

[(4, 3), (5, 2), (8, 4)]





(I) TRACE

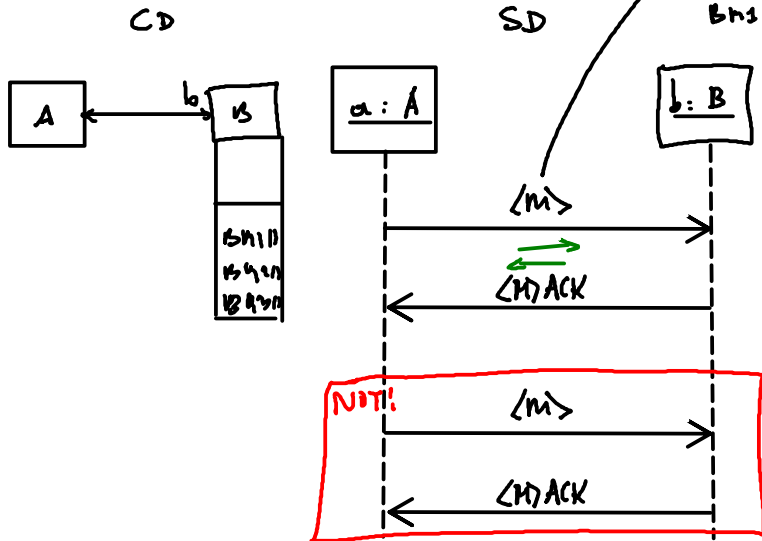


OCCURS

$m[a-z]^*[0-9]^+$
 Bns | Bmz | Bhs PUBLIC DEFINITIONS OF B

(II) PATTERN

in a : b → m()



POSITIVE ✓
 NEGATIVE ✗

RE: $\underbrace{([a-z]^+)}_1 - \underbrace{([a-z]^+)}_2 \rightarrow \underbrace{([a-z]^+)}_3 \setminus n \setminus 3 - \setminus \{ACK \rightarrow \setminus 1$
 \uparrow
 $\# \cdot * \setminus n$