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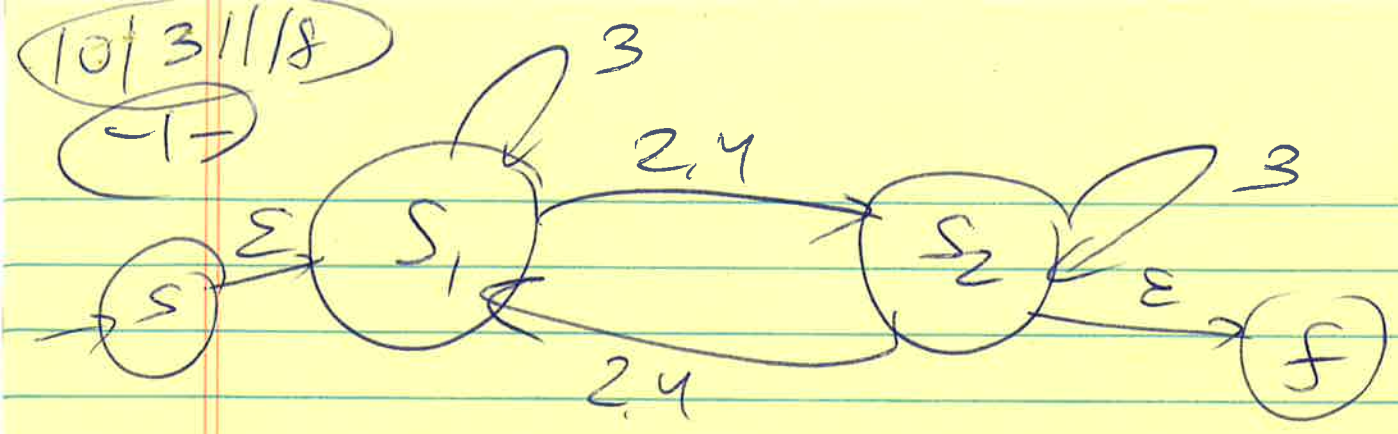

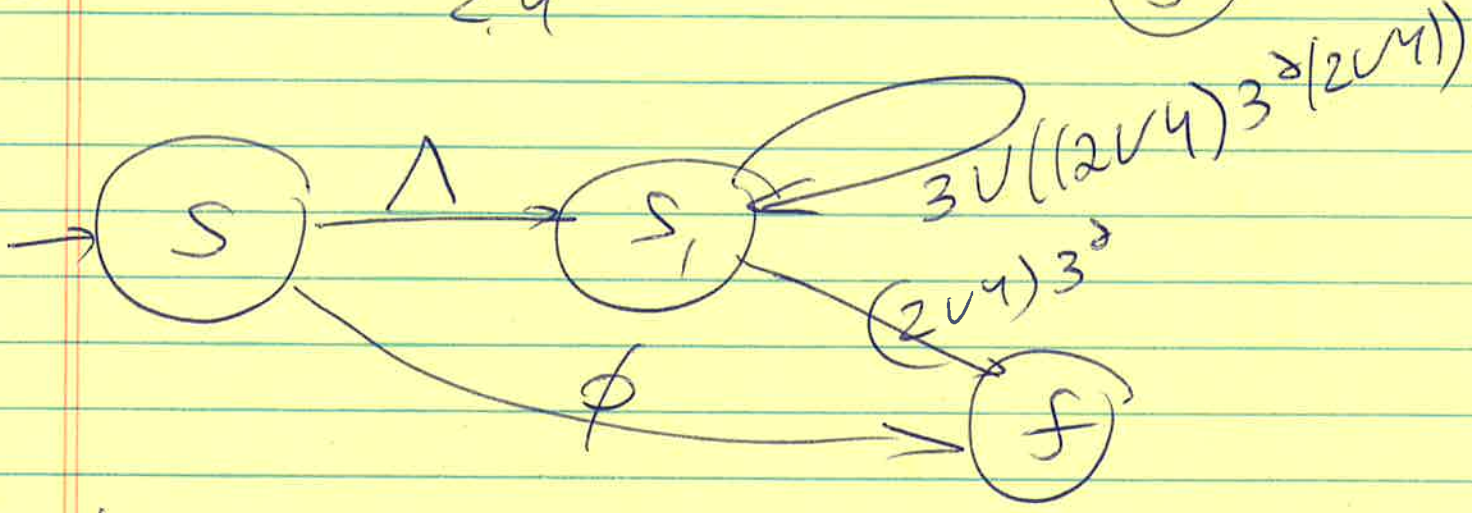

$$R'_{ss_1} = R_{ss_1} \cup (R_{ss_2} R^*_{s_2 s_2} R_{s_2 s_1})$$
$$\Lambda \quad \cup (\emptyset \cdots)$$

$$R'_{sf} = R_{sf} \cup (R_{ss_2} R^*_{s_2 s_2} R_{s_2 f})$$
$$\emptyset \qquad \emptyset$$

$$R'_{s_1 s_1} = R_{s_1 s_1} \cup (R_{s_1 s_2} R^*_{s_2 s_2} R_{s_2 s_1})$$
$$3 \quad \cup ((2 \cup 4)\ 3^*\ (2 \cup 4))$$

$$R'_{s_1 f} = R_{s_1 f} \cup (R_{s_1 s_2} R^*_{s_2 s_2} R_{s_2 f})$$
$$\not{\emptyset} \qquad (2 \cup 4)\ 3^*\ \not{\Lambda}$$

$$R'_{sf} = R_{sf} \cup (R_{ss}, R_{s,s}^{\delta}, R_{s,f})$$

ϕ $\wedge$

$$\left[\left(3 \cup (2 \cup 4) 3^{\delta} (2 \cup 4) \right)^{\delta} (2 \cup 4) 3^{\delta} \right]$$

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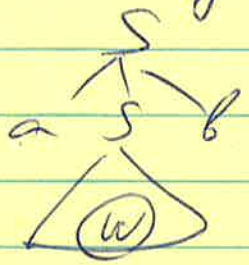
Reminder: $L = \{a^n b^n,\ n = 0, 1, \ldots\} =$

$\{\Lambda, ab, aabb, \ldots\}$

$S \to \varepsilon$ meaning: $\varepsilon \in L$

$S \to aSb$



If we have a word from the language L, and we add "a" in front and "b" at the end, we again get a word from this language

ⓐ ab ⓑ

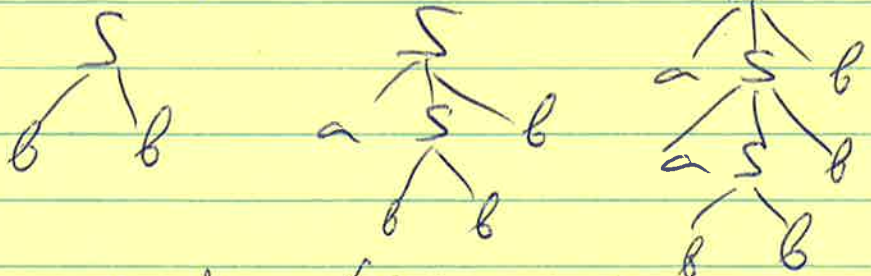
Problem 6: $\{a^n b^{n+2},\ n = 0, 1, 2, \ldots\} =$

$\{bb, abbb, aabbbb, \ldots\}$

$S \to bb$

~~$S \to abbb$~~

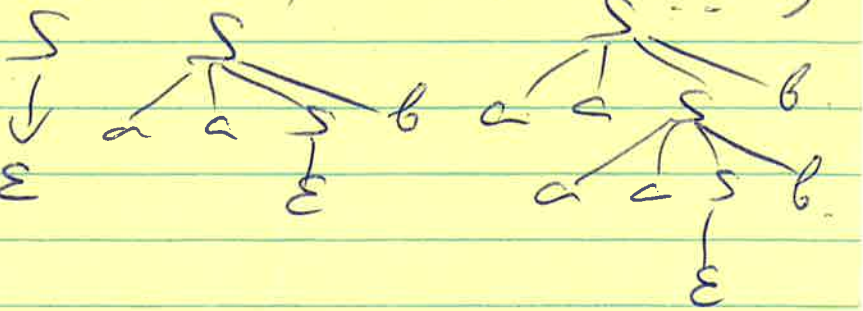
$S \to aSb$



$\{a^{2n} b^n,\ n = 0, 1, 2, \ldots\} = \{\Lambda, aab, aaaabb, \}$

$S \to \varepsilon$

$S \to aaSb$



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2+3*4

Step 1

Postfix notations 2 3 +
Prefix +23 sin(x)
Infix 2+3 - normal

add 2 and 3 - Not good

(2) plus 3 - Not good

2 and 3 add -

1920s Polish notations ≡ prefix
Postfix ≡ inverse Polish

2 + 3 * 4 — we have
2 3 4 * + — we produce

— stack

If you have a # or a variable - you copy it
If you have an operation - you push it into the stack but depending on priority you may pop previous operation from the stack before that

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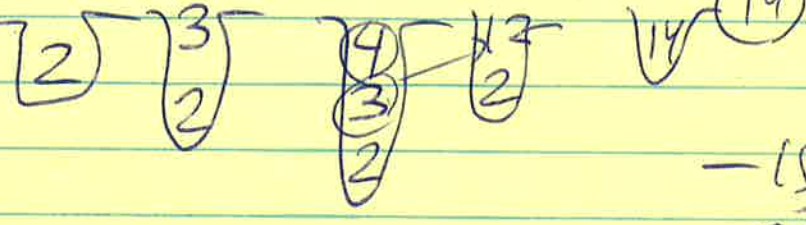
2 3 + 4 * (2+3) * 4

2 3 4 * +



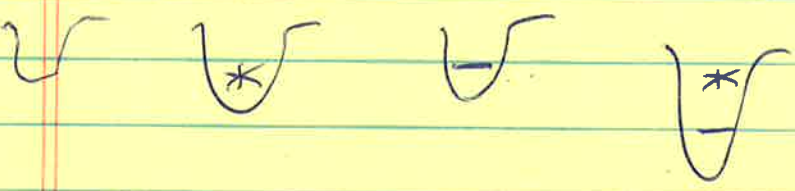
- If we have a # we push it into the stack
- If we have an operation, we pop two top #s from the stack, perform operation, & push the result

2 * 3 - 4 * 5

2 3 * 4 5 * -

2 * 3 - 4 * 5

2 * 3 * 4 5 * -



5 - 2

5 2 -