CompSci 162
Spring 2023 Lecture 4.1:
Regular Languages

Question 14

- Given $\Sigma = \{a, b\}$
- Describe set of strings accepted by: a^*ba^*

a^* : zero or more a

b : exactly b

a^*

all strings with exactly one b

Question 15

- Given $\Sigma = \{a, b\}$
- Describe the set of strings accepted by this:

$a\Sigma^* a \cup b\Sigma^* b \cup a \cup b$

all begin and end w/ a, len ≥ 2

$\{ w \in \Sigma^* \mid |w| \geq 1$ and w starts and ends with the same symbol $\}$

Question 16

- Given $\Sigma = \{a, b\}$
- Give a regular expression:
  every string that has "aab" as a substring

$$\Sigma^* \, aab \, \Sigma^*$$

Question 17

- Given $\Sigma = \{a, b\}$
- Give a regular expression:
  every string wherein every a is followed by at least one b.

$b^* (abb^*)^*$

$b^*(ab^+)^*$

This is you now

XKCD # 208 : Regular Expressions. Wait, forgot to escape a space. Wheeeeeee[taptaptap]eeeeee.