Question 22

Given RegEx, draw NFA for same language

- Any char $x \in \Sigma$ is valid, as is $\emptyset$:

- $u \cup v$ is valid when $u, v$ are:
Question 22

Given RegEx, draw NFA for same language

- $uv$ is valid when $u, v$ are:

- $(u)^*$ is valid when $u$ is:
CompSci 162
Spring 2023 Lecture 5:
Equivalences
Question 23, General Procedure

Given DFA, give equivalent regular expression.

When done: RegEx

new start

new accept

\[ R_4 \cup R_1 (R_2)^* R_3 \]
Question 24

Relationship between DFA/NFA-acceptable and RegEx?
Question 25

Make an NFA that accepts \((ab \cup a)^*\).
Question 26

Convert to a regular expression:
Regular languages closed under complementation. 
$L$ is a regular language $\rightarrow \overline{L} = \Sigma^* - L$ is regular.

$L$ is regular, so $\exists$ DFA $D$ that accepts it.

Copy $D$ to $D'$. // Plan: $D'$ will accept $\overline{L}$

In $D'$, swap set of accept/reject states.