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Today Regular expressions, equivalence to FSAs, nonregular languages. $\S 1.3, 1.4$. **Next class** HW due before class. Context-free grammars; push-down automata. $\S 2.\{0,1,2\}$

- 1. List the members of your group below. Underline your name.
- 2. Prove or disprove the regularity of each of the following languages.
 - (a) Alphanumeric strings that do not have boo as a substring.
 - (b) $\{0^n 1^n \mid 0 \le n \le 3\}$
 - (c) Binary strings with an equal number of 01 and 10 substrings.
 - (d) Strings of the form sss, for all binary strings s.

[additional space for answering the earlier question]

3.	Provide FSAs equivalent to $a(d \cup a)^*$ DFAs, but NFAs are OK for now.	and $(a \cup b \cup c)^*(ab \cup ba)$.	Ensure you can provide

4. Use the textbook method (see proof of Lemma 1.60) to compute regular expressions equivalent to the automata defined below in the homework's *Lexaard* language.

```
fsa
m1 very small
    a    b
*q1    q1    q2
q2    q2    q1
```

```
fsa
m2 a bit larger
          b
               С
     q2
q1
          q1
               q1
*q2
          q2
     q1
               q3
 q3
     q_2
          q1
               q3
```