General Announcements

- At recitation on 4/18, you will receive Quiz 2 back. Solutions will be posted and TAs will review solutions with you.

- At recitation on 4/25, TAs will cover Homework 9 recitation problems. Homework 9 will be posted by 4/21 (due 5/1). Note that Homework 9 is our last homework assignment.

- At recitation on 5/2 (last day of classes), there will be review for Quiz 3, which is on 5/2 at 6:00-7:50PM in DCC 308 (as per usual). Quiz 3 will be entirely multiple choice and focus on our coverage of Chapters 22-29 (or however far we get with that material). Quiz 3 will be handed back at our final exam....

- Our final exam is Tuesday 5/8 from 11:30AM to 2:30PM in DCC 308. Our final exam will be comprehensive and similar in style to the midterm exam, i.e., a mix of multiple choice and freeform-answer questions. Final exams will not be handed back or available for review.

- For Quiz 2 regrades, please see any TA or me during office hours

YES OR NO?

1, 2, 3, 4, 5, ..., 1000|(1, 3)(2, 8)(5, 4)(5, 2)(12, 18)|1, 1000|14

Pop Quiz 6 — Question 2

Give strings of length of at most 4 in the following languages:

(i) \{0, 1\} \cdot \{1, 11\}

ANSWERS: \{01, 011, 0111\}

(ii) \{00\}^*

ANSWERS: \{\varepsilon, 00, 0000\}

(iii) \{0, 1\}^* \cdot \{00\} \cdot \{0, 1\}^*

ANSWERS: \{00, 000, 100, 001, 0000, 0100, 1000, 1100, 0001, 1001, 0010, 0011\}
Pop Quiz 6 — Question 3

SEE Exercise 23.9 for a full solution
Give regular expressions and recursive definitions that describe the strings in the two languages:

(i) $L_{0^n 1^k} = \{0^n 1^k | n, k \geq 0\}$

**ANSWERS:** $0^* 1^*$

(ii) $L_{0^n 1^n} = \{0^n 1^n | n \geq 0\}$

**ANSWERS:** hmmmmmmmm, there is no way to write this using the regular expression language thus far....

Complexity of a Computing Problem

Translate the DFA (Deterministic Finite-State Automaton) into a regular expression (i.e., the DFA that accepts all valid binary strings ending in 1).

**ANSWERS:** $\{0, 1\}^* 1$