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# MIDTERM 1

## CS 373: THEORY OF COMPUTATION

Date: Thursday, February 21, 2013.

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### Instructions:

- This is a closed book exam. No notes, cheat sheets, textbook, or printed material allowed.
- You have 90 minutes to solve this exam.
- This exam has 4 problems. Problems 1 and 4 are worth 10 points, while problems 2 and 3 are worth 15 points. The points are not a measure of the relative difficulty of the problems.
- Please write your name on the top of *every* page in the space provided.
- If your solution does not fit in the space provided, and continues onto one of the back sheets, please indicate clearly where we should look for the solution.
- Unless otherwise stated, “prove that”, “show that” for a problem means you need to formally prove what you are claiming.
- You may use, without proof, any result that you were asked to prove in the homework or was proved in the lecture. If you use such a result, please explicitly state the result (like “ ‘Reverse of regular languages is regular’ was proved in a homework”, instead of “this was shown in a homework”).

|              |  |
|--------------|--|
| <b>Name</b>  |  |
| <b>Netid</b> |  |

Discussion:   W 10:00–10:50   W 11:00–11:50   W 12:00–12:50  
                  W 2:00–2:50     W 3:00–3:50     W 4:00–4:50

| Problem | Maximum Points | Points Earned | Grader |
|---------|----------------|---------------|--------|
| 1       | 10             |               |        |
| 2       | 15             |               |        |
| 3       | 15             |               |        |
| 4       | 10             |               |        |
| Total   | 50             |               |        |