

HW 9 CMSC 452. Morally DUE Nov 18

Just ONE problem, worth 100 points. This is the problem that I wanted to put on the midterm, but the copy machine disagreed and left it off.

NOTE: Since this is only ONE problem there is also a HW 10 which is also Morally Due Nov 18.

1. Draw a DFA for the language

$$\{(x, y) \mid x \leq y + 3\}.$$

2. Draw a DFA for the language

$$\{(x, y) \mid x \leq y + 10\}.$$

(You may use DOT-DOT-DOT) How many states does it have?

3. Let $n \in \mathbb{N}$ with $n \geq 10$. Draw a DFA for the language

$$\{(x, y) \mid x \leq y + n\}.$$

(You may use DOT-DOT-DOT) How many states does it have?

ALSO- IF you got ≤ 60 on the midterm then you can submit the midterm itself together with the problems you got wrong done RIGHT but with MORE explanation than I required at the time (problem 1- you have to prove stuff). This will NOT add to your score but it WILL count for *consideration* if after the final you are on the C-D border. (It will not help at all on the B-C or A-B border.) You need to do this by NOVEMBER 18. (NO dead-cat extension allowed.) This document should be SEP from the HW.