Recitation 1 (9/8/17)

Administrivia

Name: Srinivasan “Srini” Raghuraman
Email: srirag@mit.edu
Office: 32-G604
Office Hours: W4-6 in the G6 Lounge

Warm-up

Consider the alphabet $\Sigma = \{0, 1\}$. Design finite state automata accepting the following languages:

1. $W_1 = \{1011\}$

2. $W_2 = \{w \mid w \text{ begins with 1011}\}$

3. $W_3 = \{w \mid w \text{ ends with 1011}\}$

4. $W_4 = \{w \mid w \text{ contains 1011}\}$
The Real Deal

Consider the alphabet $\Sigma = \{0, 1\}$. Design finite state automata accepting the following languages:

1. $A_5 = \{ w \mid \#1's \text{ in } w \text{ is divisible by } 5 \}$

2. $A_n = \{ w \mid \#1's \text{ in } w \text{ is divisible by } n \}$

3. $B_5 = \{ w \mid w \text{ as a binary number is divisible by } 5 \}$

4. $B_n = \{ w \mid w \text{ as a binary number is divisible by } n \}$