

COS126 RE - DFA Worksheet

- Recommended RE/DFA exercises from the exam archive:
 - Fall 2009, Exam 2, question 2
 - Fall 2008, Exam 2, question 4
- Booksite Exercise 7.2.2
 - Write a regular expression for each of the following sets of binary strings. Use only the basic operations.
 1. all binary strings
 2. all binary strings except empty string
 3. begins with 1, ends with 1
 4. ends with 00
 5. contains at least three 1s
- Make a DFA that recognizes the same language as each of the above Regular Expressions.

Language	Regular Expression	DFA
All binary strings	$(0 1)^*$	
All binary strings except empty string	$(0 1)(0 1)^*$	
Begins with 1, ends with 1	$1 1(0 1)^*1$	
Ends with 00	$(0 1)^*00$	
Contains at least three 1s	$(0 1)^*1(0 1)^*1(0 1)^*1(0 1)^*$	