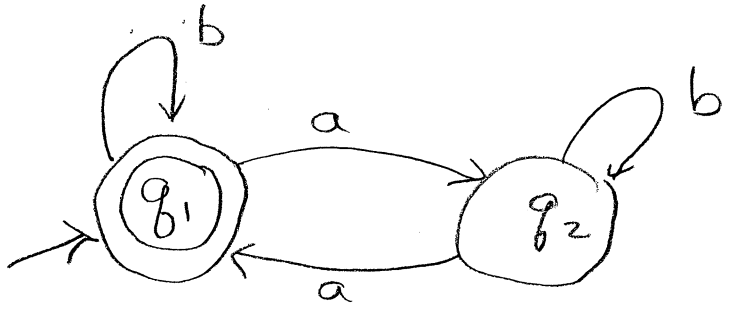
4/2/14 DA

M_1



alphabet = $\{a, b\}$
states = $\{q_1, q_2\}$
start state = q_1
accepting states = $\{q_1\}$
transition function

states	symbols a	b
q_1	q_2	q_1
q_2	q_1	q_2

M_1 <u>accepts</u> a b a a b a b

Because starting in the start state and following the transitions corresponding to the symbols from left to right:

a	b	a	a	b	a	b
q_1	q_2	q_2	q_1	q_2	q_2	q_1	q_1

the last state is q_1, which is accepting. The <u>language of M_1</u>, is all the strings accepted by M_1, all strings of a's & b's with an even number of a's.