CS 341, Fall 2011
Solutions for Quiz 1, Day Section

1. (a) $aa, ab, aaa, aab, baa, bab$

   (b) A is closed under concatenation. To prove this, let w_1 and w_2 be arbitrary strings in A. Then $|w_1| \geq 2$, $|w_2| \geq 2$, and the second-to-last symbol of both strings is a. Then the concatenation $w_1 w_2$ satisfies $|w_1 w_2| \geq 4 > 2$ and the second-to-last symbol of the concatenation is the same as the second-to-last symbol of w_2, which is a. Thus, $w_1 w_2 \in A$, so A is closed under concatenation.

   (c) A DFA for A is below: