Use JFLAP or pen/pencil to solve the following problem. You may work with 1 or two others for this classwork.

1. Build a TM acceptor for the following language.
   \[ L = \{ ww \mid w \in \Sigma^+ \} \], \( \Sigma = \{a, b\} \)
   Note that abab is accepted, abbb is not accepted.

2. Give the running time, big-Oh, assuming the \(|w| = n\).