

10 pts

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 $|w| = n$.

$\frac{1}{2}n$
 \dots
 n
 $\theta(n^2)$

abbbabbb
 0 bbb abbb
 0 1 1 1 0 1 1 1
 a b b b a b b b

n times $\begin{cases} 2n \\ 2n-1 \\ 2n-2 \end{cases}$
abbbabbb
 0 1 1 1 0 1 1 1
 $\theta(n^2)$