1. Let $\Sigma = \{a, b\}$, and let L be the set of timed words of the form $(w_1 w_2 \ldots w_n, \tau_1 \tau_2 \ldots \tau_n)$ such that:

   - $\tau_0 = 0$,
   - b occurs at every integer time stamp between τ_0 and τ_n, and nowhere else
   - a occurs only at non-integer time stamps.

   Construct a timed automaton for the complement of L.

2. Let $\Sigma = \{a, b_1, b_2\}$. Let L be the set of all timed words $(w_1 w_2 \ldots w_n, \tau_1 \tau_2 \ldots \tau_n)$ over Σ such that:

   - no two letters have the same time-stamp,
   - there is a b_1 or a b_2 at every integer time stamp $\leq \tau_n$,
   - there is no b_1 or b_2 at any non-integer time stamp,
   - a occurs only at non-integer time stamps,
   - for every integer $1 \leq k \leq \tau_n$,
     - if the letter at time stamp $k-1$ is b_1, then for every a occurring at a timestamp t in the interval $(k-1, k)$ *except the last one* there is an a at $t+1$,
     - if the letter at time stamp $k-1$ is b_2, then for every a occurring at a timestamp t in the interval $(k, k+1)$ *except the last one*, there is an a at $t-1$.

   Construct a timed automaton for the complement of L.