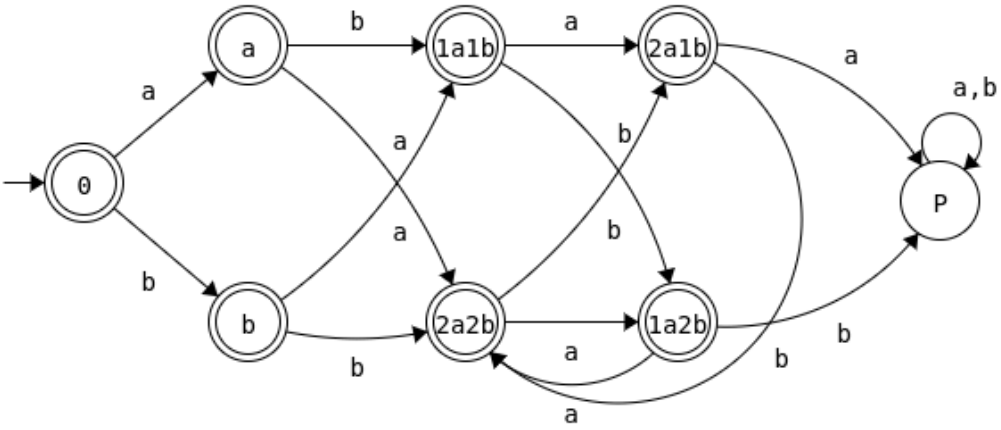
# Exercise ‹10›: Minimum DFA for $\{w \in \{a,b\}^* \mid \forall x,y : ((w = xy \wedge |x| \geq 3) \Rightarrow (|x|_a \in \dot{2} \vee |x|_b \in \dot{2}))\}$

Describe the minimum DFA that recognizes the language of the words over $\{a,b\}$ such that every prefix of length greater than or equal to $3$ has an even number of $a$'s or an even number of $b$'s.

*Authors:* Guillem Godoy / *Documentation:*

**Date:** 2025-02-19 15:40:24
**Verdict:** accepted

Correct automaton.




Fullscreen

Switch to text editor

Usage:

- **Add a state:** double-click on background.
- **Add a transition:** shift-drag from a state to a state.
- **Make a starting state:** shift-drag from background to a state.
- **Make an accepting state:** double-click on a state.

Automaton encoded in text:

```
      a    b
 0    a    b    +
 1a1b 2a1b 1a2b +
 1a2b 2a2b P    +
 2a1b P    2a2b +
 2a2b 1a2b 2a1b +
 P    P    P
 a    2a2b 1a1b +
 b    1a1b 2a2b +
```

Submit Previous submissions