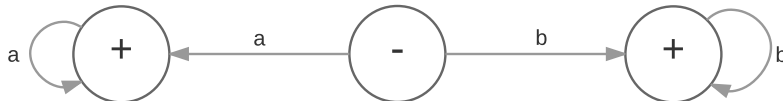


### P01. Finite Automata

Build an FA that accepts the language of all words with only a's or only b's in them. For example, a, aa, aaa, b, bb, bbb, etc are in the language, while null string, ab, ba, aab, aba, bab, bba, baa, etc are not in the language



Give a regular expression for this language.

**$(aa^* + (bb^*))$**

-- can have (1 or more **as**) or (1 or more **bs**) --

### P02. Finite Automata

Describe in English the languages accepted by the following FA

The input must end with **a**

The input must be an odd length

Give a regular expression for the language.

**$((a+b)(a+b))^* a$**

must end with an a  
have an even number of characters before the final a (can be zero before the final a)