Construct a **TM with storage** that accepts the language:

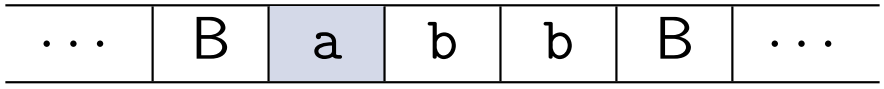
$$L(M) = \{\mathtt{ab}^n \text{ or } \mathtt{ba}^n \mid n \geq 0\}$$

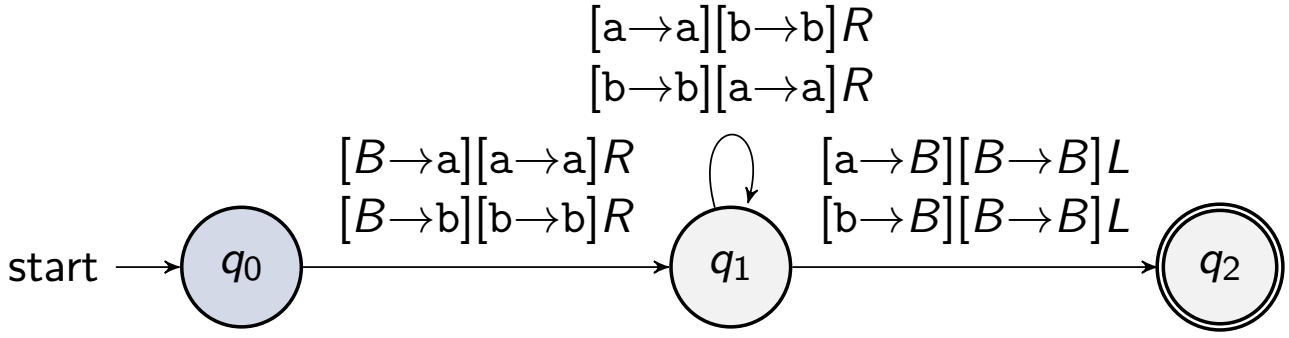
| ⋯ | B | a | b | b | B | ⋯ |
|---|---|---|---|---|---|---|

1: Store the first symbol in the storage
2: **while** there is a complement symbol **do**
3: Read the complement of the symbol stored in the storage
4: **end while**

Construct a **TM with storage** that accepts the language:

$$L(M) = \{\mathtt{a}\mathtt{b}^n \text{ or } \mathtt{b}\mathtt{a}^n \mid n \geq 0\}$$



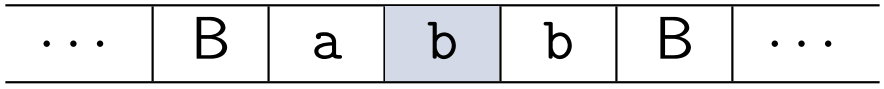



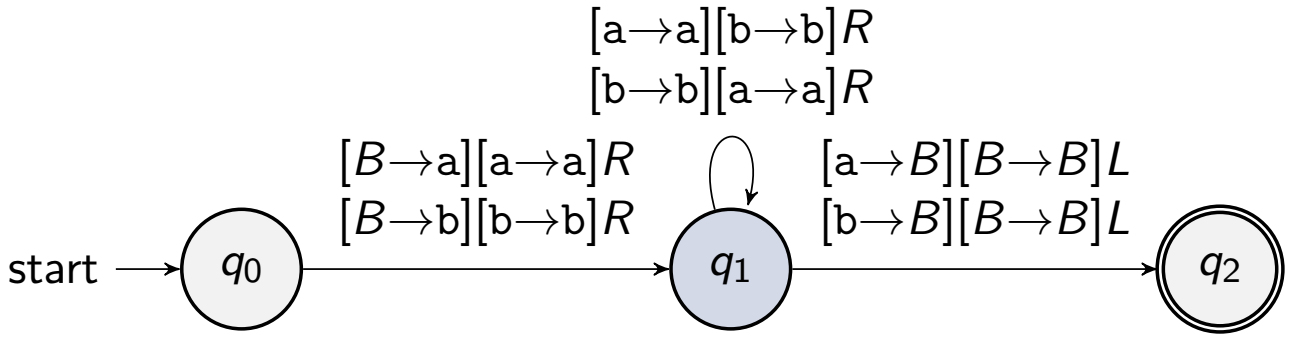

Storage: $B$

Store the first symbol in the storage.

Construct a **TM with storage** that accepts the language:

$$L(M) = \{\mathtt{a}\mathtt{b}^n \text{ or } \mathtt{b}\mathtt{a}^n \mid n \geq 0\}$$



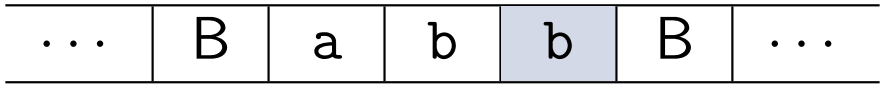



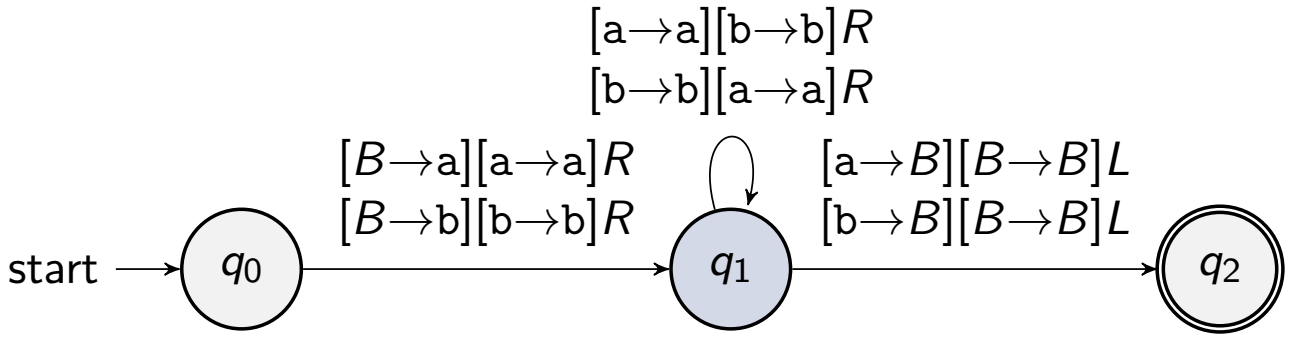

Storage: a

Read the complement of the symbol stored in the storage.

Construct a **TM with storage** that accepts the language:

$$L(M) = \{\mathtt{a}\mathtt{b}^n \text{ or } \mathtt{b}\mathtt{a}^n \mid n \geq 0\}$$



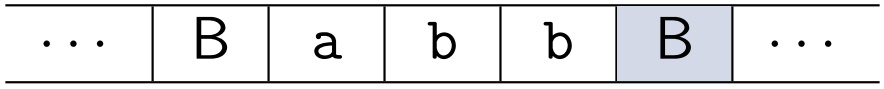



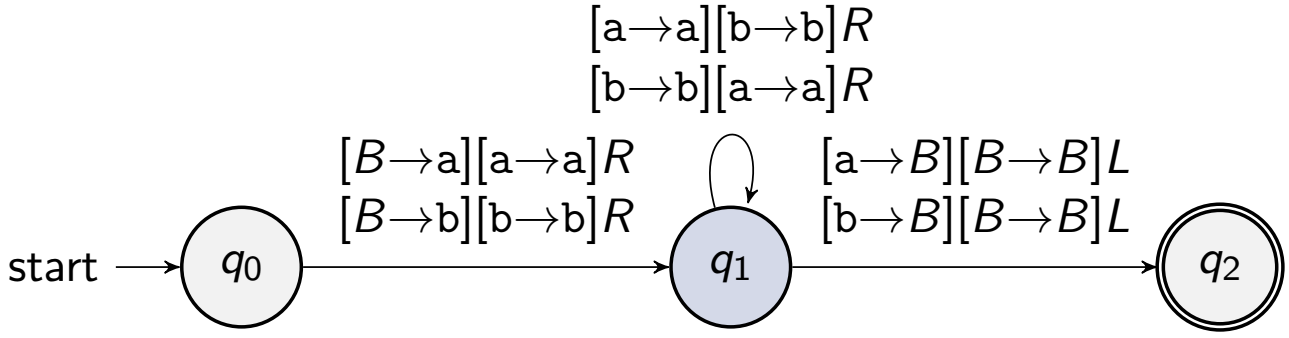

Storage: a

Repeat until there is no more complement symbol.

Construct a **TM with storage** that accepts the language:

$$L(M) = \{\mathtt{a}\mathtt{b}^n \text{ or } \mathtt{b}\mathtt{a}^n \mid n \geq 0\}$$



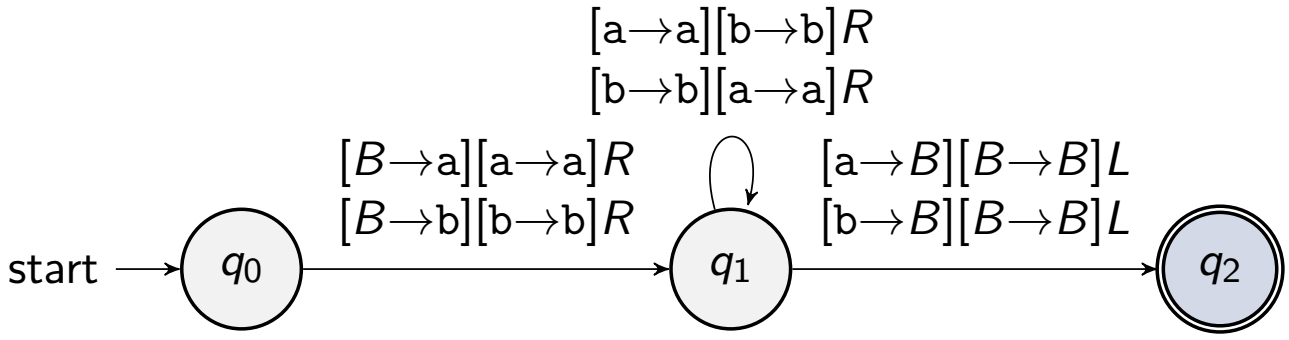




Storage: a

Construct a **TM with storage** that accepts the language:

$$L(M) = \{\mathtt{a}\mathtt{b}^n \text{ or } \mathtt{b}\mathtt{a}^n \mid n \geq 0\}$$

| ··· | B | a | b | b | B | ··· |
|---|---|---|---|---|---|---|




Storage: | $B$ |

Accept!