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

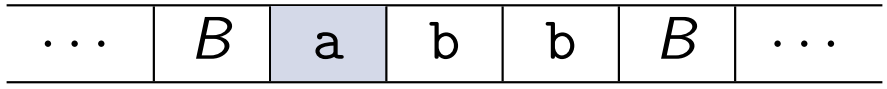
$$L(M) = \{\mathtt{a}\mathtt{b}^n \text{ or } \mathtt{b}\mathtt{a}^n \mid n \geq 0\}$$

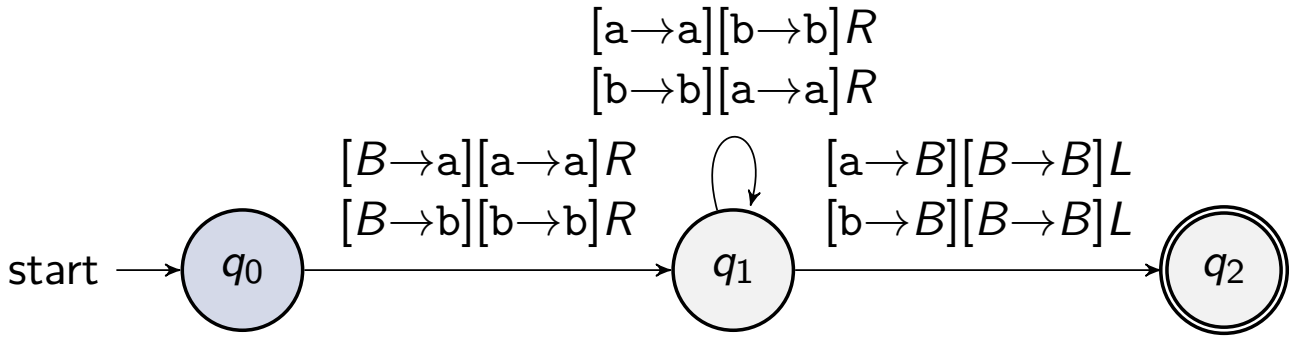
$\cdots$	B	a	b	b	B	$\cdots$

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

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

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



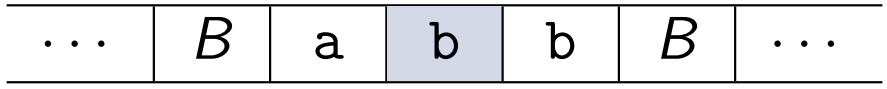


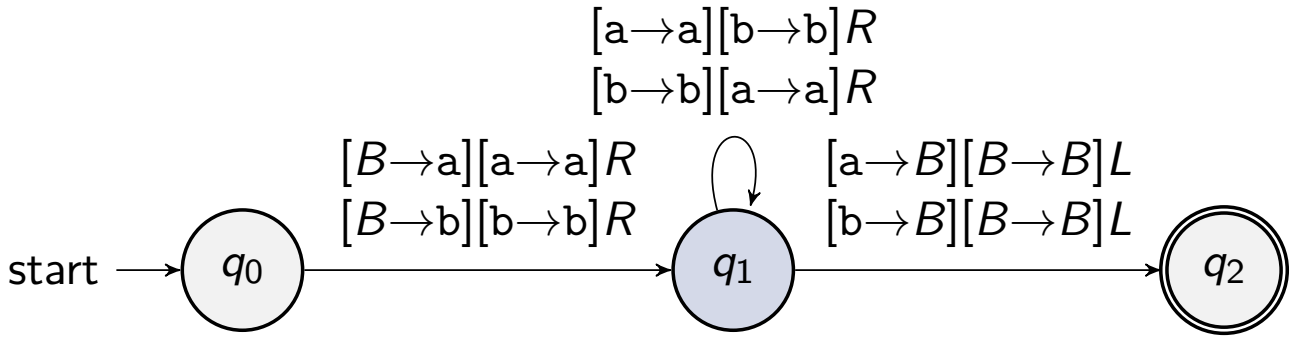
Storage: B

Store the first symbol in the storage.

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

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



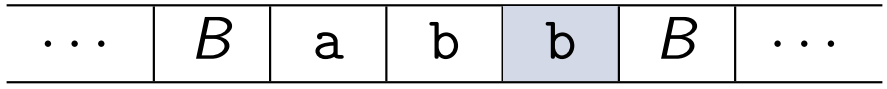


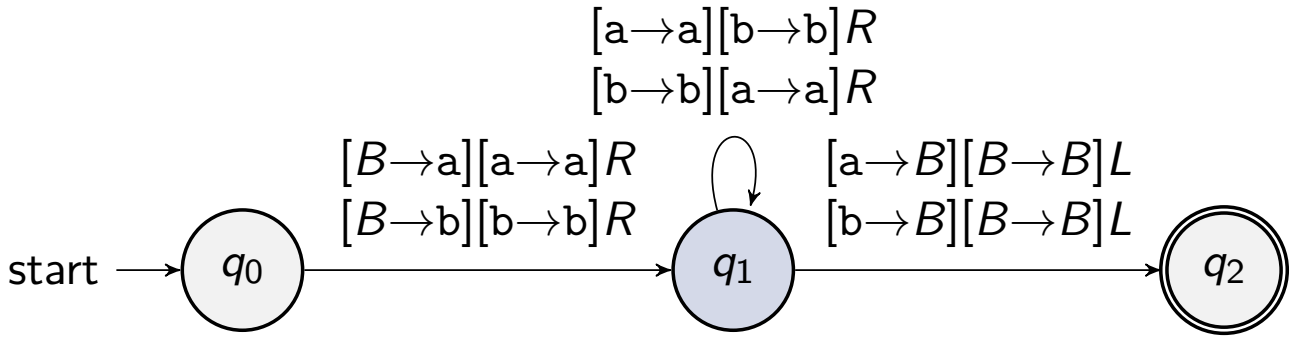
Storage: a

Read the complement of the symbol stored in the storage.

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

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



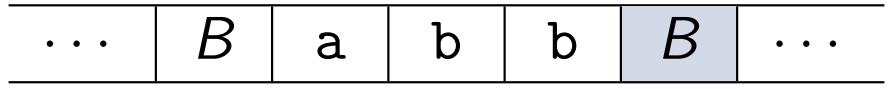


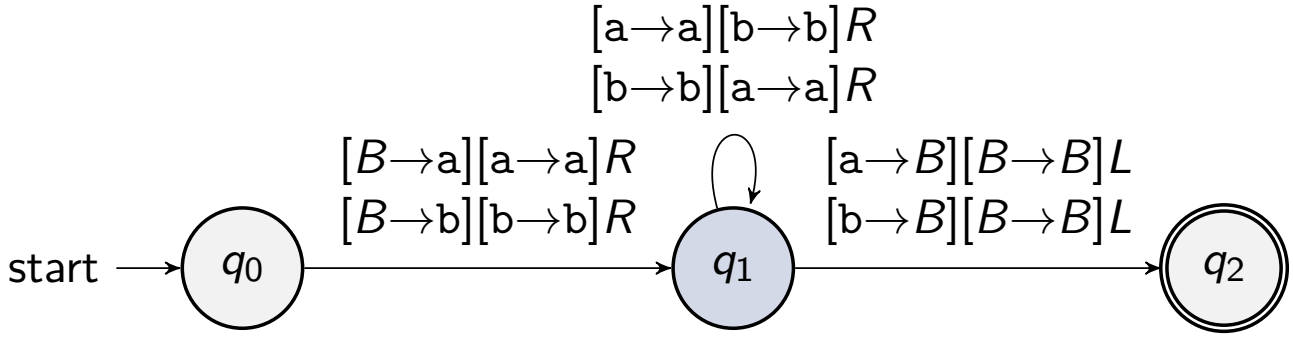
Storage: a

Repeat until there is no more complement symbol.

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

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



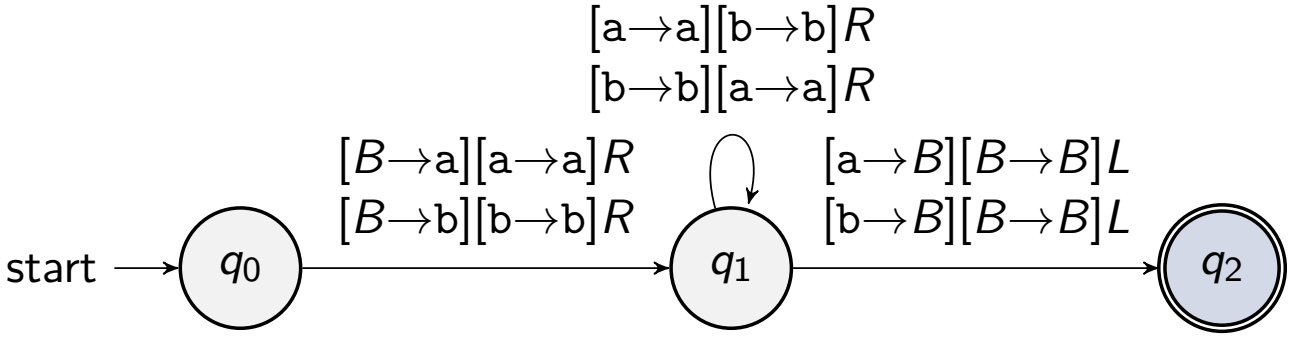


Storage: a

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

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

$\cdots$	B	a	b	b	B	$\cdots$



Storage: B

Accept!