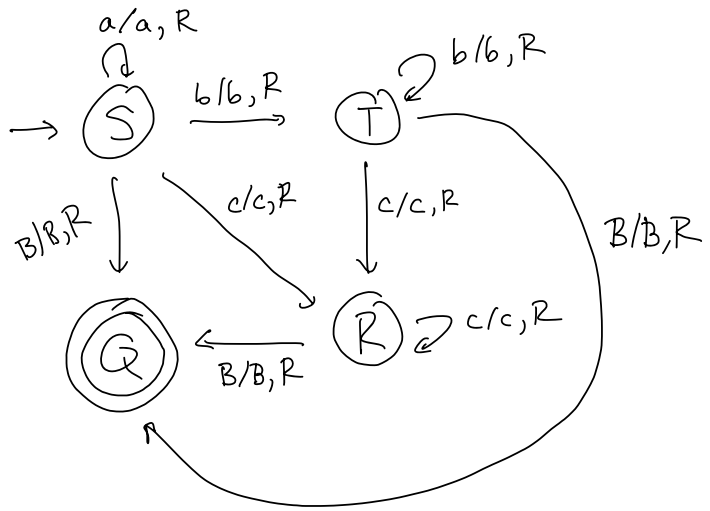
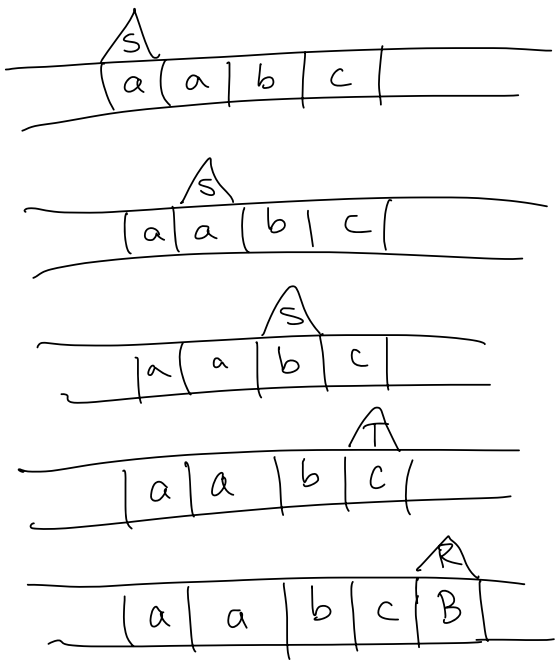
Ex

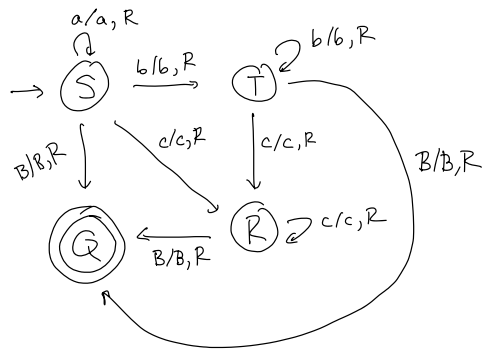


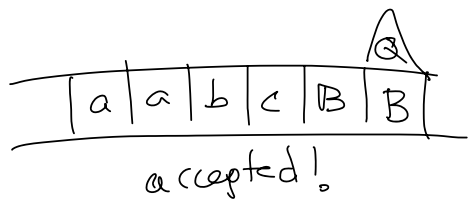
A label like $x/y, R$ means "read x, write y, move R"

We begin with the input string on the tape,
if the TM ever reaches an accepting state,
it halts & the string is accepted.

Is aabc accepted?

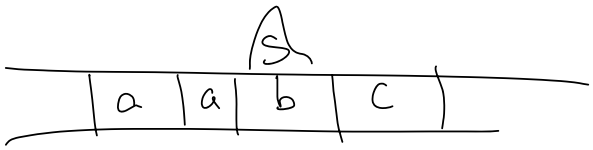






accepted!

We write it like so:



as an ID: aaSbc

tape to the left of the head — state — tape at & R of the head

our aabc looks like

$$Saabc \mapsto aSabc \mapsto aaSbc \mapsto aabTc$$
$$\mapsto aabcR \mapsto aabcBQ$$

Try aba

$$Saba \mapsto aSba \mapsto abTa$$ stuck!

(no outgoing "read a" arrow from state T)

so aba is rejected.

Derivatives

Grammars

Stack machines