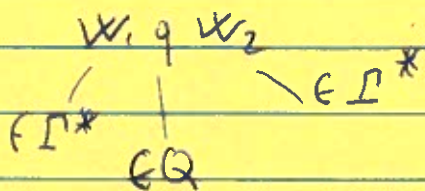


TURING MACHINES $(Q, \Sigma, \Gamma, \delta, q_0, q_{acc}, q_{res})$

additional formal definitions

- configurations:



configurations

- computational step: $c_1 \rightarrow c_2$

$$w_1 q_1 X w_2 \rightarrow w_1 Y q_2 w_2 \quad \text{if } \delta(q_1, X) = (q_2, Y, R)$$

~~and $Xw_2 \neq \epsilon$~~

and $Xw_2 \neq \epsilon$

$$w_1 q_1 X \rightarrow w_1 Y q_2 \epsilon \quad \text{if } \delta(q_1, X) = (q_2, Y, R)$$

$$w_1 X q_1 Y w_2 \rightarrow w_1 q_2 X Z w_2 \quad \text{if } \delta(q_1, Y) = (q_2, Z, L)$$

$$q_1 X \rightarrow q_2 Y w \quad \text{if } \delta(q_1, X) = (q_2, Y, L)$$