A **Turing Machine** is a 7-tuple, (Q, Σ, Γ, δ, q_0, q_accept, q_reject) where Q, Σ, Γ are all finite sets and

1. Q is the set of states
2. Σ is the input alphabet not containing the **blank symbol** $\sqcup$
3. Γ is the tape alphabet, where $\sqcup \in \Gamma$ and $\Sigma \subseteq \Gamma$
4. $\delta : Q \times \Gamma \Longrightarrow Q \times \Gamma\{L, R\}$ is the transition function
5. q_0 is the start state
6. $q_{accept} \in Q$ is the start state
7. $q_{reject} \in Q$ is the reject state where $q_{reject} \neq q_{accept}$