CES547T - M2

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2.13 Let $L = L_1 \cap L_2 = \left\{ x \in (a+b)^* \middle| x \text{ end with } ab \text{ and contains no } aa \text{ substring.} \right\}$. Let $S = \{\Lambda, a, aa, ab\}$. S is a $pairwise\ L-distinguishable$ set since:

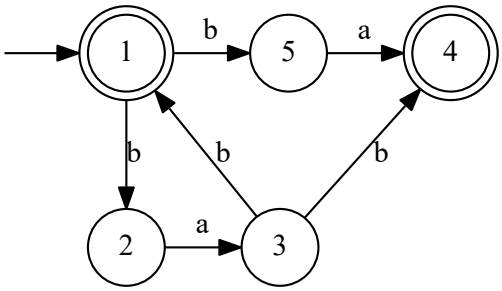
- ab is distinguishable with Λ, a, aa by Λ.
- a is distinguishable with Λ, aa by b.
- Λ is distinguishable with aa by ab.

Then apply **Theorem 2.21**, any FA accepts L should have at least 4 states.

2.17(a) Λ and a is not $L-distinguishable$ since:
Provide a $z \in (a+b)^*$

- if $z \in L$, $az \in L$.
- if $z \notin L$, $az \notin L$.

3.37(a)



3.37(c)