

①

$$L = \{a^n b^n c^n\}$$

$$w = \underbrace{a^s a^r a^{n-s-r}}_{\bar{u} \bar{v} \bar{w}} \underbrace{b^n c^n}_{\bar{x} \bar{y}}$$

$$i = 2$$

$$W = a^s a^{2r} a^{n-s-r} b^{2n} c^n$$

$$W = a^{n+r} b^{2n} c^n \notin L$$

eg:

② $L = \{ww \mid w \in (a,b)^*\}$

$$w = a^n b a^n b$$

$$w = \underbrace{a^s a^r a^{n-s-r}}_{\bar{u} \bar{v} \bar{w}} \underbrace{b a^n b}_{\bar{x} \bar{y}}$$

$$\bar{u} \bar{v}^2 \bar{w} \bar{x}^2 \bar{y} = a^s a^{2r} a^{n-s-r} b a^{2n} \cdot b$$

$$= a^{n+r} b a^{2n} b \notin L$$