CS-206: Assignments 1, 2

Soumen Pradhan – 1912176

14 . 02 . 2021

1. L^* –

   ab aa baa ab aa
   aa aa baa aa
   baa aa ab aa

   L^4 –

   aa aa baa aa
   baa aa ab aa

2. Given,

$$\Sigma = \{a, b\}$$

$$L = \{aa, bb\}$$

   So,

$$\overline{L} = \Sigma^* - L = \{a, b\}^* - \{aa, bb\}$$

3. a) $P : S \to bS \mid Sb \mid a$
   $G = (\{S\}, \{a, b\}, S, P)$

   b) $P : S \to aS \mid bS \mid Sb \mid a$
   $G = (\{S\}, \{a, b\}, S, P)$

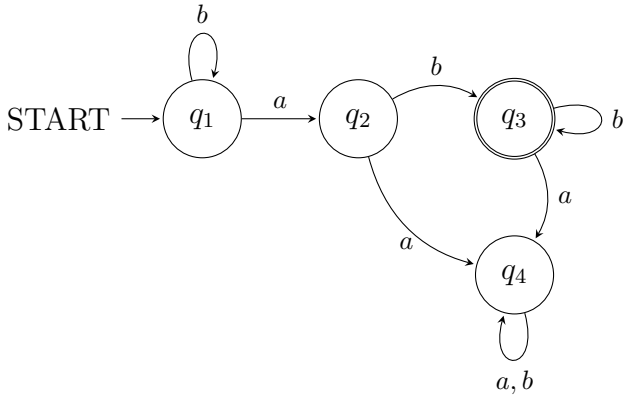
4. a) P :
   $S \to S_1B$
   $S_1 \to aS_1b \mid \lambda$
   $B \to bB \mid b$
   $G = (\{S, S_1, B\}, \{a, b, \lambda\}, S, P)$

b) $P : S \to aSbb \mid \lambda$
$G = (\{S\}, \{a, b\}, S, P)$

c) $P : S \to aSb \mid aa$
$G = (\{S\}, \{a, b\}, S, P)$

d) $P : S \to aSb \mid aaa$
$G = (\{S\}, \{a, b\}, S, P)$

5. grammar



6. a)

7. dfa