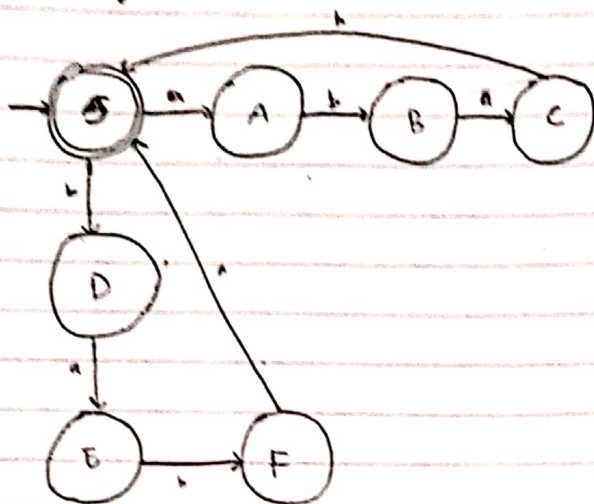


1. Konstruksikan tata bahasa regular untuk bahasa yang diterima oleh automata pada gambar:



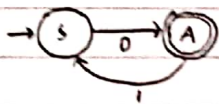
Jawab:

 $S \rightarrow aA, S \rightarrow bD, S \rightarrow \epsilon$ 
 $A \rightarrow bB$ 
 $B \rightarrow aC$ 
 $C \rightarrow bS$ 
 ~~$S \rightarrow aA$~~ 
 $D \rightarrow aE$ 
 $E \rightarrow bF$ 
 $F \rightarrow aS$ 
 $V = \{S, A, B, C, D, E, F\}$ 
 $T = \{a, b\}$ 
 $P = \{S \rightarrow aA \mid bD \mid \epsilon, A \rightarrow bB, B \rightarrow aC, C \rightarrow bS, D \rightarrow aE, E \rightarrow bF, F \rightarrow aS\}$ 

2. Buatlah FSA dari:

 $S \rightarrow DA$ 
 $A \rightarrow 10A \mid \epsilon$ 

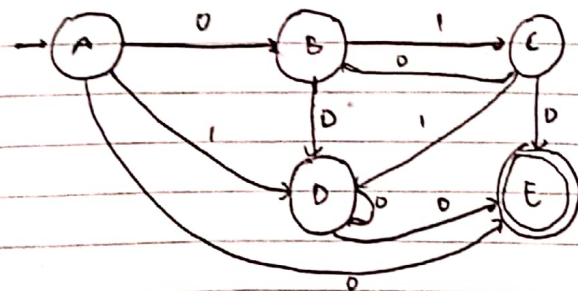
Jawab:



3. Buat FSA dari:

 $A \rightarrow 0B \mid 1D \mid 0$ 
 $B \rightarrow 0D \mid 1C$ 
 $C \rightarrow 0B \mid 1D \mid 0$ 
 $D \rightarrow 0D \mid 0$ 

Jawab:



4. Konstruksikan tata bahasa regular.



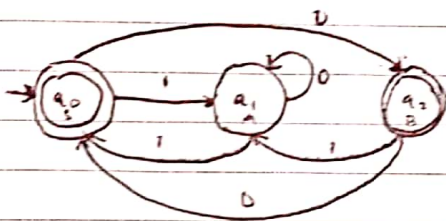
Jawab:  $S \rightarrow aS, S \rightarrow bA,$   
 $A \rightarrow aA, A \rightarrow bB$   
 $B \rightarrow aA, bB, \epsilon$

$$V = \{S, A, B\}$$

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

$$P = \{S \rightarrow aS \mid bA, A \rightarrow aA \mid bB, B \rightarrow aA \mid bB \mid \epsilon\}$$

5. Konstruksikan tata bahasa regular untuk bahasa yang diterima



Jawab:  $S \rightarrow 0B, S \rightarrow 1A, S \rightarrow \epsilon$   
 $A \rightarrow 0A, A \rightarrow 1S$   
 $B \rightarrow 0S, B \rightarrow 1A, B \rightarrow \epsilon$

$$V = \{S, A, B\}$$

$$T = \{0, 1\}$$

$$P = \{S \rightarrow 0B \mid 1A \mid \epsilon, A \rightarrow 0A \mid 1S, B \rightarrow 0S \mid 1A \mid \epsilon\}$$