

	[P,1]	[P,2]	[P,3]	[Q,1]	[Q,2]	[Q,3]	[R,1]	[R,2]	[R,3]	[S,1]	[S,2]	[S,3]
inf	{4}	{2}	{1,5}	{5}	{3}	{4}	{}	{1}	{3,5}	{}	{}	{1,4}
sup	{3,4}	{2,3}	{1,5}	{1,5}	{2,3}	{1,2,4}	{2}	{1,4}	{2,3,4,5}	{2,3,5}	{3,5}	{1,2,4}

(1)  $\tau_1 : [P, 1] \Rightarrow [S, 1]$

$$\minsup(\tau_1) = 0, \maxsup(\tau_1) = 0$$

(2)  $\tau_2 : [P, 1] \Rightarrow [S, 2]$

$$\minsup(\tau_2) = 0, \maxsup(\tau_2) = \frac{1}{5}, INACC = \{3\}, maxacc(\tau_2) = \frac{1}{2}$$

(3)  $\tau_3 : [P, 1] \Rightarrow [S, 3]$

$$\begin{aligned} \minsup(\tau_3) &= \frac{1}{5}, INACC = \{3\}, minacc(\tau_3) = \frac{1}{2} \\ maxsup(\tau_3) &= \frac{1}{5}, INACC = \{\}, maxacc(\tau_3) = 1 \end{aligned}$$

(4)  $\tau_4 : [P, 2] \Rightarrow [S, 1]$

$$\minsup(\tau_4) = 0, \maxsup(\tau_4) = \frac{2}{5}, INACC = \{3\}, maxacc(\tau_4) = 1$$

(5)  $\tau_5 : [P, 2] \Rightarrow [S, 2]$

$$\minsup(\tau_5) = 0, \maxsup(\tau_5) = \frac{1}{5}, INACC = \{3\}, maxacc(\tau_5) = \frac{1}{2}$$

(6)  $\tau_6 : [P, 2] \Rightarrow [S, 3]$

$$\minsup(\tau_6) = 0, \maxsup(\tau_6) = \frac{1}{5}, INACC = \{\}, maxacc(\tau_6) = 1$$

(7)  $\tau_7 : [P, 3] \Rightarrow [S, 1]$

$$\minsup(\tau_7) = 0, \maxsup(\tau_7) = \frac{1}{5}, INACC = \{\}, maxacc(\tau_7) = \frac{1}{2}$$

(8)  $\tau_8 : [P, 3] \Rightarrow [S, 2]$

$$\minsup(\tau_8) = 0, \maxsup(\tau_8) = \frac{1}{5}, INACC = \{\}, maxacc(\tau_8) = \frac{1}{2}$$

(9)  $\tau_9 : [P, 3] \Rightarrow [S, 3]$

$$\begin{aligned} \minsup(\tau_9) &= \frac{1}{5}, OUTACC = \{\}, minacc(\tau_9) = \frac{1}{2} \\ maxsup(\tau_9) &= \frac{1}{5}, INACC = \{\}, maxacc(\tau_9) = \frac{1}{2} \end{aligned}$$

(10)  $\tau_{10} : [Q, 1] \Rightarrow [S, 1]$

$$\minsup(\tau_{10}) = 0, \maxsup(\tau_{10}) = \frac{1}{5}, INACC = \{\}, maxacc(\tau_{10}) = 1$$

$$(11) \quad \tau_{11} : [Q, 1] \Rightarrow [S, 2]$$

$$\minsup(\tau_{11}) = 0, \maxsup(\tau_{11}) = \frac{1}{5}, INACC = \{\}, \maxacc(\tau_{11}) = 1$$

$$(12) \quad \tau_{12} : [Q, 1] \Rightarrow [S, 3]$$

$$\minsup(\tau_{12}) = 0, \maxsup(\tau_{12}) = \frac{1}{5}, INACC = \{1\}, \maxacc(\tau_{12}) = \frac{1}{2}$$

$$(13) \quad \tau_{13} : [Q, 2] \Rightarrow [S, 1]$$

$$\minsup(\tau_{13}) = 0, \maxsup(\tau_{13}) = \frac{2}{5}, INACC = \{2\}, \maxacc(\tau_{13}) = 1$$

$$(14) \quad \tau_{14} : [Q, 2] \Rightarrow [S, 2]$$

$$\minsup(\tau_{14}) = 0, \maxsup(\tau_{14}) = \frac{1}{5}, INACC = \{\}, \maxacc(\tau_{14}) = 1$$

$$(15) \quad \tau_{15} : [Q, 2] \Rightarrow [S, 3]$$

$$\minsup(\tau_{15}) = 0, \maxsup(\tau_{15}) = \frac{1}{5}, INACC = \{2\}, \maxacc(\tau_{15}) = \frac{1}{2}$$

$$(16) \quad \tau_{16} : [Q, 3] \Rightarrow [S, 1]$$

$$\minsup(\tau_{16}) = 0, \maxsup(\tau_{16}) = \frac{1}{5}, INACC = \{2\}, \maxacc(\tau_{16}) = \frac{1}{2}$$

$$(17) \quad \tau_{17} : [Q, 3] \Rightarrow [S, 2]$$

$$\minsup(\tau_{17}) = 0, \maxsup(\tau_{17}) = 0$$

$$(18) \quad \tau_{18} : [Q, 3] \Rightarrow [S, 3]$$

$$\begin{aligned} \minsup(\tau_{18}) &= \frac{1}{5}, OUTACC = \{2\}, \minacc(\tau_{18}) = \frac{1}{2} \\ \maxsup(\tau_{18}) &= \frac{3}{5}, INACC = \{1, 2\}, \maxacc(\tau_{18}) = 1 \end{aligned}$$

$$(19) \quad \tau_{19} : [R, 1] \Rightarrow [S, 1]$$

$$\minsup(\tau_{19}) = 0, \maxsup(\tau_{19}) = \frac{1}{5}, INACC = \{2\}, \maxacc(\tau_{19}) = 1$$

$$(20) \quad \tau_{20} : [R, 1] \Rightarrow [S, 2]$$

$$\minsup(\tau_{20}) = 0, \maxsup(\tau_{20}) = 0$$

$$(21) \quad \tau_{21} : [R, 1] \Rightarrow [S, 3]$$

$$\minsup(\tau_{21}) = 0, \maxsup(\tau_{21}) = \frac{1}{5}, INACC = \{2\}, \maxacc(\tau_{21}) = 1$$

$$(22) \quad \tau_{22} : [R, 2] \Rightarrow [S, 1]$$

$$\minsup(\tau_{22}) = 0, \maxsup(\tau_{22}) = 0$$

$$(23) \tau_{23} : [R, 2] \Rightarrow [S, 2]$$

$$\minsup(\tau_{23}) = 0, \maxsup(\tau_{23}) = 0$$

$$(24) \tau_{24} : [R, 2] \Rightarrow [S, 3]$$

$$\minsup(\tau_{24}) = \frac{1}{5}, OUTACC = \{\}, \maxsup(\tau_{24}) = 1$$

$$(25) \tau_{25} : [R, 3] \Rightarrow [S, 1]$$

$$\minsup(\tau_{25}) = 0, \maxsup(\tau_{25}) = \frac{3}{5}, INACC = \{2\}, maxacc(\tau_{25}) = 1$$

$$(26) \tau_{26} : [R, 3] \Rightarrow [S, 2]$$

$$\minsup(\tau_{26}) = 0, \maxsup(\tau_{26}) = \frac{2}{5}, INACC = \{\}, maxacc(\tau_{26}) = 1$$

$$(27) \tau_{27} : [R, 3] \Rightarrow [S, 3]$$

$$\minsup(\tau_{27}) = 0, \maxsup(\tau_{27}) = \frac{2}{5}, INACC = \{2, 4\}, maxacc(\tau_{27}) = \frac{1}{2}$$

$$(28) \tau_{28} : [P, 1] \wedge [Q, 3] \Rightarrow [S, 3]$$

$$\minsup(\tau_{28}) = \frac{1}{5}, OUTACC = \{\}, minacc(\tau_{28}) = 1$$

以上より,  $support \geq 0.2$ ,  $accuracy \geq 0.8$  を満たす Possible rule は,

$$\begin{aligned} &[P, 1] \Rightarrow [S, 3], [P, 2] \Rightarrow [S, 1], [P, 2] \Rightarrow [S, 3], [Q, 1] \Rightarrow [S, 1], [Q, 1] \Rightarrow [S, 2] \\ &[Q, 2] \Rightarrow [S, 1], [Q, 2] \Rightarrow [S, 2], [Q, 3] \Rightarrow [S, 3], [R, 1] \Rightarrow [S, 1], [R, 1] \Rightarrow [S, 3] \\ &[R, 2] \Rightarrow [S, 3], [R, 3] \Rightarrow [S, 1], [R, 3] \Rightarrow [S, 2] \end{aligned}$$

であり, Certain rule は,

$$[R, 2] \Rightarrow [S, 3], [P, 1] \wedge [Q, 3] \Rightarrow [S, 3]$$

である.