FORMAL DEF OF DFA - 5 TUPPLES:

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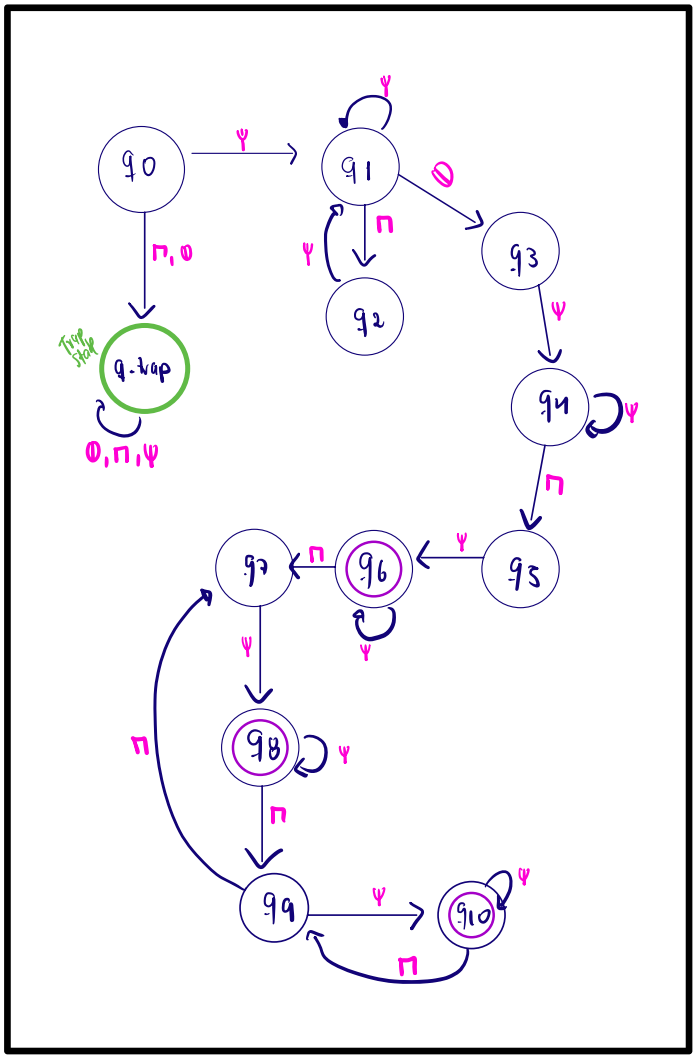
M:
psi = letter "1" = Ψ
phi = "@" = Ø
pi = "." = ⊔



5 TUPPLES:

● = Final States

DFA $M = \{Q, \Sigma, \delta, q_0, F\}$

$Q = \{q_0, q_1, q_2, q_3, q_4, q_5, q_6, q_7, q_8, q_9, q_{10}, q\text{-trap}\}$ $q_0 = q_0$

$\Sigma = \{\Psi, \sqcup, \emptyset\}$ inside code referred as {psi, pi, phi} $F = \{q_6, q_8, q_{10}\}$

$\delta =$

$\delta(q_0, \Psi) \vdash q_1$
$\delta(q_1, \Psi) \vdash q_1$
$\delta(q_1, \sqcup) \vdash q_2$
$\delta(q_2, \Psi) \vdash q_1$
$\delta(q_1, \emptyset) \vdash q_3$
$\delta(q_3, \Psi) \vdash q_4$
$\delta(q_4, \Psi) \vdash q_4$
$\delta(q_4, \sqcup) \vdash q_5$
$\delta(q_5, \Psi) \vdash q_6$
$\delta(q_6, \Psi) \vdash q_6$
$\delta(q_6, \sqcup) \vdash q_7$
$\delta(q_7, \Psi) \vdash q_8$
$\delta(q_8, \Psi) \vdash q_8$
$\delta(q_8, \sqcup) \vdash q_9$
$\delta(q_9, \sqcup) \vdash q_7$
$\delta(q_7, \Psi) \vdash q_8$
$\delta(q_8, \sqcup) \vdash q_9$
$\delta(q_9, \Psi) \vdash q_{10}$
$\delta(q_{10}, \Psi) \vdash q_{10}$
$\delta(q_{10}, \sqcup) \vdash q_9$

● = q_6, q_8, q_{10}

Everytime, the states transitions to one of the above, we conclude that:

"(q_6 or q_8 or q_{10}) is the final state and the whole string is parsed, there the string "w" is accepted"