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# ASSIGNMENT 1

## Q NO 1:

## CANDIDATE ELIMINATION

$S_0$ : < ∅ , ∅ , ∅ , ∅ , ∅ >

$S_1$ : < Japan , Honda , Blue , 1980, Economy >

$S_2$ : < Japan , Honda , Blue , 1980 , Economy >

$S_3$ : < Japan , ? , Blue , ? , Economy >

$S_4$ : < Japan , ? , Blue , ? , Economy >

$S_5$ : < Japan , ? , ? , ? , Economy >

$G_5$ : < Japan , ? , ? , ? Economy >

$G_4$ : { < ? ? blue ? ? ? > , < ? ? ? 1990 ? > , < Japan ? ? ? Economy >

$G_3$ : { < ? ? blue ? ? ? > , < ? ? ? 1990 ? > , < ? ? ? ? Economy > }

$G_2$ : { < ? ? red ? ? ? > , < ? ? white ? ? ? > , < ? ? ? 1980 ? > < ? ? ? ? Economy >
< USA ? ? ? ? ? > , < ? Honda ? ? ? > , < ? Chrylor ? ? ? > < ? ? blue ? ? ? > }

$G_1$ : < ? , ? , ? , ? , ? >

$G_0$ : < ? , ? , ? , ? ? >

Q NO2

# FIND "S" ALGO

Data in Vector form:

| < ~~Face~~ | HAIR | EYE | NOSE | ~~MOUTH~~ | OUTPUT | |
|---|---|---|---|---|---|---|
| Circle | Yes | Circle | Triangle | Pink | happy | + |
| Square | Yes | Square | Square | Green | Sad | − |
| Circle | Yes | Square | Triangle | Yellow | Happy | + |
| Circle | No | Circle | Triangle | Green | Sad | − |
| Circle | Yess | Square | Square | Yellow | Happy | + |

Let,

$h_0 : \langle \emptyset, \emptyset, \emptyset, \emptyset, \emptyset \rangle$

$h_1 : \langle$ Circle, Yes, Circle, Triangle, Pink $\rangle$

$h_2 : \langle$ Circle, Yes, ?, Triangle, ? $\rangle$

$h_3 : \langle$ Circle, Yes, ?, ?, ? $\rangle$

So, $h_3$ is the most specific hypothesis.