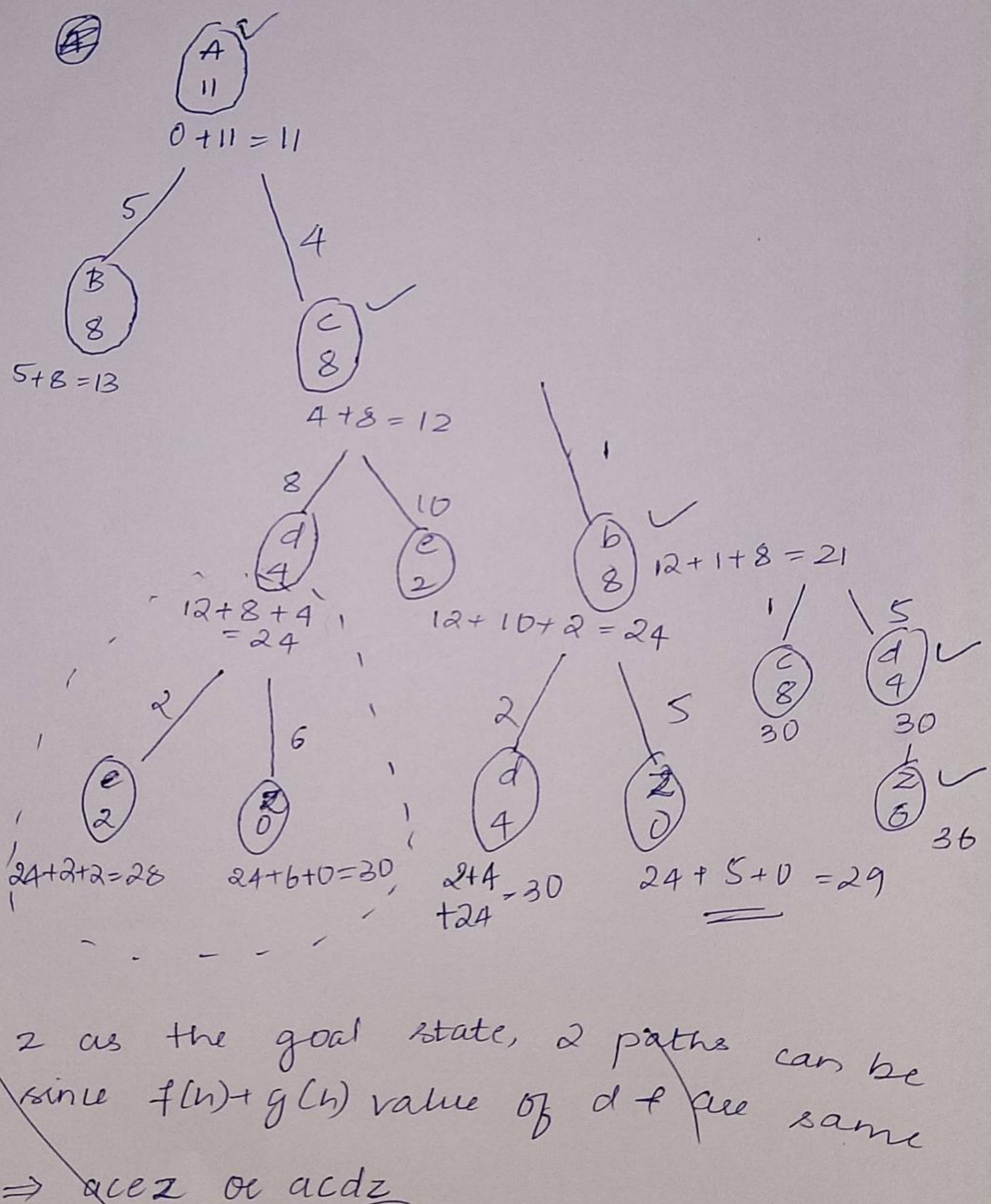
Nameeta Gudi
4NI17IS046
ISO442
6B AI

① A* algorithm



considering z as the goal state, 2 paths can be obtained since f(h)+g(h) value of d & e are same

⇒ acez or acdz

path ACBDz

Nameata Gudi
4NI17IS046
ISO442
AI

(2) Genetic algorithm.

→ is a variant of stochastic beam search in which successor states are generated by combining 2 parent states rather than by modifying a single state

function GENETIC-ALGO (population, FITNESS-FN) returns an individual

inputs : population, a set of individuals

FITNESS-FN, a function that measures the fitness of an individual

repeat

new_population ← empty set

for i=1 to SIZE (population) do

x ← RANDOM-SELECTION (population, FITNESS-FN)

y ← RANDOM-SELECTION (population, FITNESS-FN)

child ← REPRODUCE (x, y)

if (small random probability) then child ← MUTATE (child)

add child to new_population

population ← new population

until some individual is fit enough or enough time has elapsed

return the best individual in population, according to FITNESS-FN

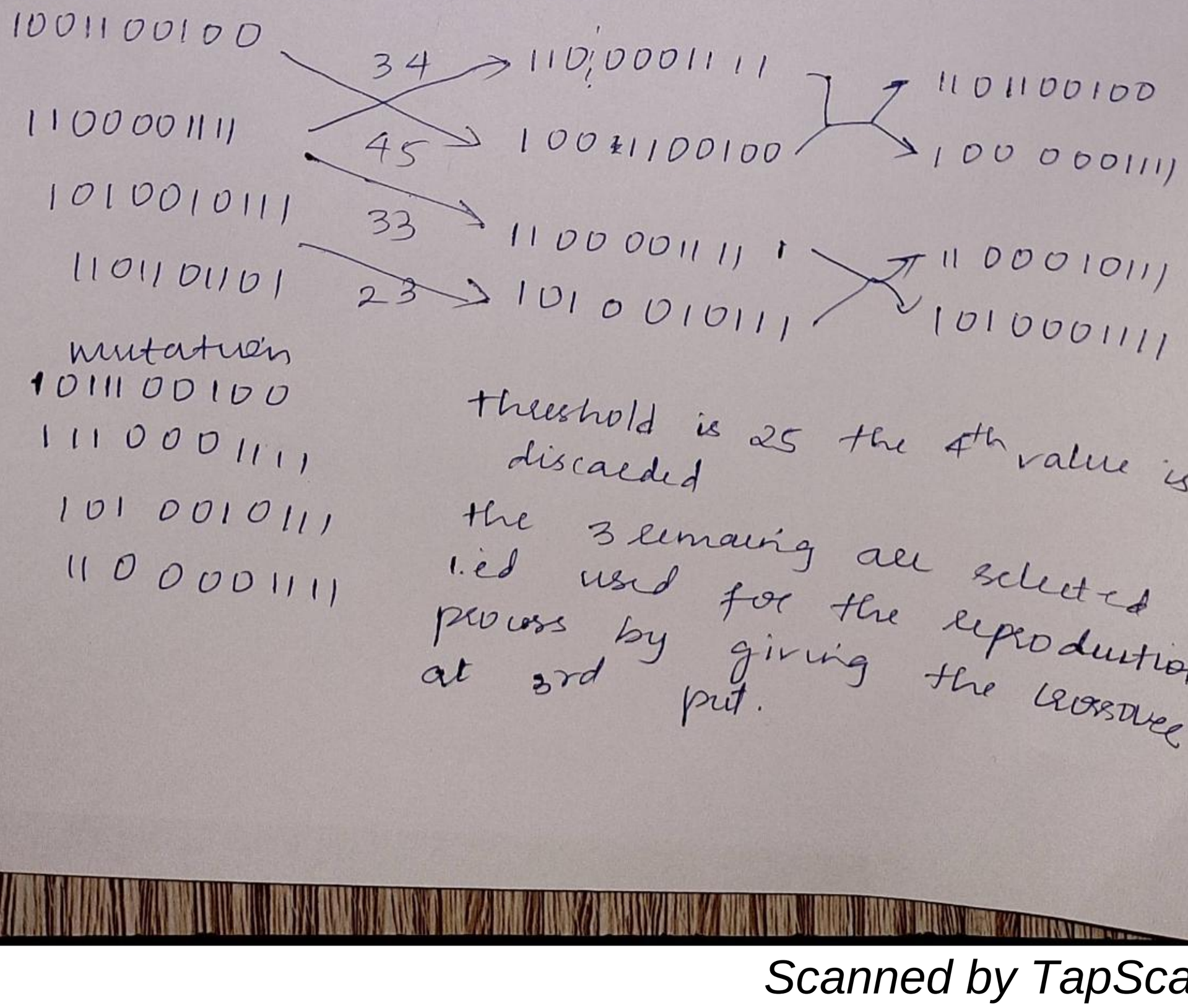
Nlameata Gudi
4NI17LS046
1S0442
AI

function REPRODUCE (x,y) returns an individual
input x,y, parent individuals
n← LENGTH (x); c← random no from 1 to n
return APPEN (SUBSTRING (x, 1, c), SUBSTRING (y, c+1, n))

(3) Agent for partially observable environments.

The agent formulates a problem, calls a search algo (AND-OR-GRAPH-SEARCH) to solve it, and executes the solution.

→ Fitness threshold = 25



Nameeta Gudi
ANU1715046
ISU442
AI

mutation in decimal

Mutation

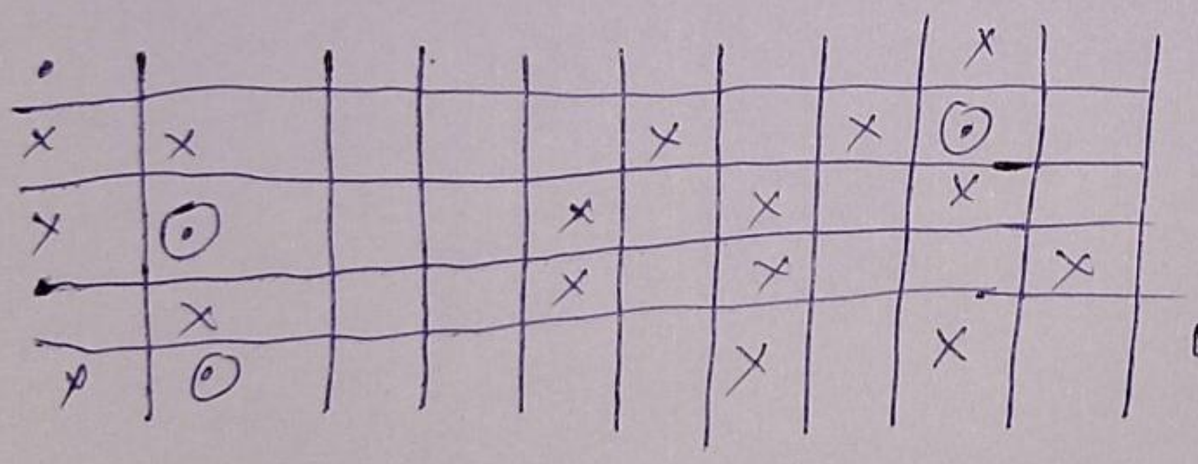
740

911

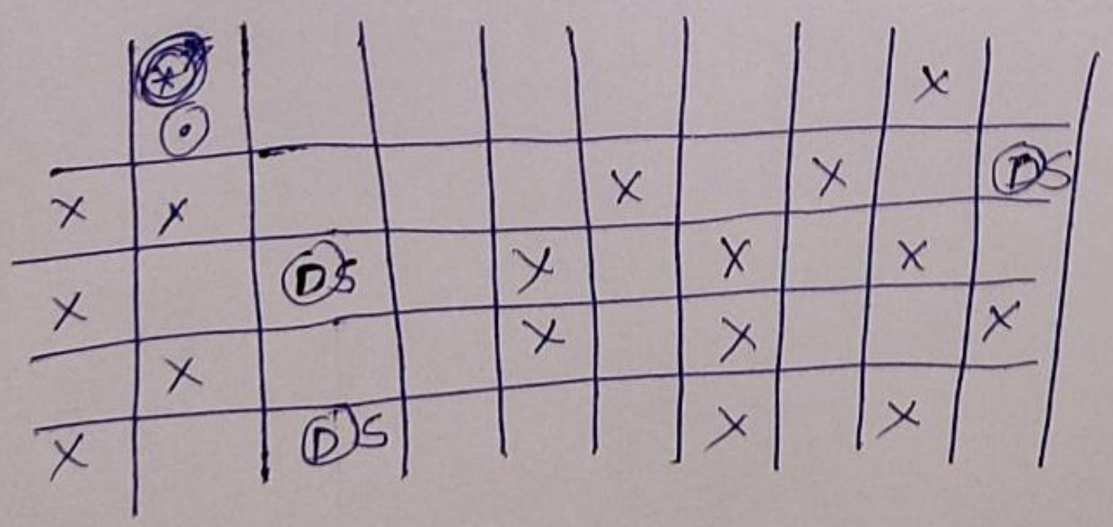
663

783

③ Initial NSW, ~~NN~~
Next N



since after the movement only North is blocked one 3 possible state → the other 3 states [(DS)] does not have any blockage in North hence it does not ~~sta~~ satisfy the percept give



First row 2nd column (X) ⟵
⇝ the next percept position