Lab - 3 8/10/24 8- Puzzle of hards of Colifornia. SAMMAN EDWARD VIEW -> Algorithm :-With Mildellie of Mildellie Step 1: Groal state and mours 4 7 92 goal state = [[1,2,3] [C4,5,6] [7, 8.-] (dele deleg) assiste estate morres = [(-1,0) wp () 102 - WATTY (1,0) = Down Wille Distre (o, -1) = 24th

(o, -1) = 24th Step 2: - To Calculate manhather distante that the destante of manhattan—distance (state)

for fin sange (32)

for 3 in sange (3) areally on the top if state (i)(j) = '-': goal_1, goal-j=divmod [state (i) [j]-1, 3] destance + = als (i-god-i)+ als (j-god-i) greturn des fanus Check if curset state matches goal state del derent (state): setuen goal = State - - state

if Solde(i) (i) = '-' - there for all 4 derections cering the more mostress. Tour Surger Return the neighbors array. alven has stated to be Carried and a design to the de des (state); quem = deque ((State, State)) (0,1-) Visited = set () www.000 = (0 1) while queue Curred_state = path = quew. popleft () He check if current settle is goal state

state

(Mod 2) word also more date. state state state of not writed add to greene. get the neighbour 1 no -> end Ce 1- (i) (Still Still (Still) bomish = i-loop in I hope M29 M=8 W=10

from collections import deque GOAL-STATE = [[1,2,3], [H, 5, 6], MOVES = ((-1,0), (1,0), (0,-1) distance = 0

(Day & wall [7,8,-] () 1/10 to 1/10 () def man hattan - distance (State): Got Ppn nange (3): for jindange (3): il state (i) (j) != '-'i goal-i, goal-j=di distance = abs (i-) seturn distance. nerghbors = [7 for p in range (3)!

get neighbors (state):

for 3 in range (3):

[State (i) (j) == " for more in Mol

new.-i, nu

? O < = new _ i <

new - State = [gron ners-state (i)(s),

from collections import deque Cante was bounded and the GOAL-STATE = [[1,2,3], and the second of the second o [4,5,6], [7,8,-] - West (Classes & Start III) MOVES = ((-1,0), () to 2 a had 12/1/ (1,0), (0,-1) : susup photos convert - stati , porte = govern , peppleft () man hattan - distance (State) juste - trend it it - love - 21 NKRY MANTER distance =0 Got P. Pn nange (3): ((1) the twent white I give) with for jin 2 ange (3): within if state (i) (j)!='-'i goal-i, goal-j = drumod (Stati EiJGJ-1, 3) distance = abs (i-goal-i) + abs (j-goal-i) seturn distance. del get-neighbors (state): LIVER BUNK. nerghbors = [3 (Called a date later) for l'in range (3)! (10,5,6) for 3 in range (3): [State (i) (j) == '-': for more in MOVES: new-i, new s=i+mon (o), j+ mon (i) if O<= new_i<8 and G<= new-5<3: new - State = [grow [:] for sow in state) new-state (i)(o), new-state (new-i)(new-5)= new-state (new-i)(new-i)(new-i)(new-i)(new-i)

new-state (1)[1] neighbors. append (new-state) setwen neighbors del als (state): quem = deque (((state, & state])]) visited = set () while queue: current_ State, path = queur. popleft () if is-goal-State (avored-state) : Return path OF DONE THE if tuple (map (typle, Cornet_state)) in wirted: continua ((1) tomator (1); visted-add (typle (map (typle, current-state)) for neighbor in get neighborer (unt state): queur append ((neighborn, poth + [neighbord])) de garantes establish Return 10 once []= 1000-124 inital_state = [[4,1,3], The Paris of the (7,2,07, Ser J. W. Land B. C. M. A STATE OF THE STATE OF Lath & dps. (initial-State) the state of the said that were the said of the said the said of t

if hoth: point ("Solution found:") for state in hoth: for now in state: wint (row) point () else: point (No solution found.") see the state of the state of the state Dustin House Duty : westers Allenda to the second of the s