8 Kyzle Gome good state : الار ع 2 8 0 The ey up right of 6 moves= & (1,0) (0,1)(-1,0) (0,-1) del manhattan (state) for i in range (3) for jun range(3)

up (share[i)(j))=0) for to go had according to 3th for y in range (3) goal-i, goal-y = divmod (statelis/y) -1,3) dustance: goal-i-1 goal-1 model : 4): colons def guncighnous jor ien rounge(3) Br of in range (3) m w in room c pos-i = it move(o)

pos-j = it move(i) This function acts the neighbouring demand on with juzzic as shuffler this above logic och the puzzles arranged using marketter distance where we calculate the hosizontal and verticle distance of the element in the goal state from anitial after Next in the edgs function we take two variables visited and unvisited all the clements that hour been in visited list and all the clements their are not checked are placed in unvisited sixt we do their as that the same demon is not checked in the new state again and again

1 2 3 4 5 6 7 8 0	3 1 8 9 0 2 5	conficultations of the start of
curr-atate: {.}		10,8,51
goal-state: {}}		ſ
atach frum (own olare))	Moves:
moves: 0		(0,1-)
		((0,:)
if (curr_atate = = goal_ata left = (0,1) row ent = (-1.0)	ure)	(1-,0)
left = (0,1)	mn	(1,0)
m c (o)		
81ght (0,-1)	istale (secure):	old metalication of
olown: (1,0)	intoller (ar cute):	distance o
		إداء أراء الم المعجود
fount (moves)		gor file sou
Journ Circos)		of statessi
nod Catalecrip (1-1,2)	goal 4 = Shive	: 0000
(1) + als (1-9 con : 1	cop-1) (Ves - 1)	deiton
		yeshound ship
		def is goal i
	1911 - JAOR = = 3	that a prider
	ans sture.	ctul get neighbor
	[]	: xaguerau
		year in some
· ·	i (E) span	55 } kg
	· (0==0)//	the Line
in the second second	12/12/2011	Li
and the state of		
The thirty was a		

from collections import deque GOAL STATES (1,2,3), [५,५,६] 13,8,07 MOVES: (-1,0). (1,0),(0,-1), (0,1) oly manhakan-distance (state): distance = 0 for i in range (3): for y'in vounage(3): of statefilly][=0: goal-i, goal-y'= airmod atatesissis-1,3) distance + = als (i-goal-i) + als (y'-goal-j' return distance def - is - goal. state (state): sectiven atom == GOAL STATE des get-neighbours (state): no ightos = [] for i in sange (3): for g in range (3); ig (statesil(j.)==0). for move in moves: ni, nj: [+ move(o), y'+ move(1) u) 0 (: ni <3 and 0 <= nj <3: newstate: [row [:] por row in state) new statelilly), newstate (nillay), new statelni) (inj), new state neighbors. appliend linewstate survive heighbors

dy dys (state): Mech Great queue: deque (((state, (state)))) Latery property (E110; visited z set () (6,1,2) while queue: (4, 5, 4-1 (5,6,4) cs, fr = queue. fropdept() 10,8,8, ef us-goal state (cs): (6,0,1) (F,1, p) detwer h ej dieple (man (dreple, cs)) un visited: (8,0,2) continue visited add Ctype (map (tuple, cs))) (8114) for neighbor in get neighbors (es).

queue append ((neigneon, pads fit (neigneon))) suturn None [4,113] (1,2,3) initial state - 1 [4,5,6] (0,2,0) 14,1,37, (18'0't) (8,8,4) (7,2,6), (6,5,17 (0,8,2) [4,5,6] freath = of (initial-state) (0,8,0) frank ("solution found") for state in h. for row in state: frant (sow) frant ("No dubition found")

: - ous (1 (state, (state))); Butsut dodution found: (0,1,3) [4,1,3] [4,2,6] () i equerce. Justicy () (7,2,6) (3,5,8) g. good stude (cs): (5,8,0) (1,0,3) i/ Noomis (4,1,3) [4,2,6] con is (shound supple, co) [3,2,6) (7,5,8) 12,018) (6, 12, 30) est dans supplications. (4,1,3) (4,00,6) supposed of positions (7,2,6) (2,3/8) Derpian)) January 1. June 1 (0,5,8) [4:113] (1,2,3) 1- Mr. - 1 14,5,67 10,2,6) (3,018) (3,5,8) [1,2,3] 14,5,6) (2,8,0) skeet in x Hickory and I de 1+1+0+++3+0+6+2=8 with Maria total moves / & () same!

```
Solution found:
[4, 1, 3]
[7, 2, 6]
[5, 8, 0]
[4, 1, 3]
[7, 2, 6]
[5, 0, 8]
[4, 1, 3]
[7, 2, 6]
[0, 5, 8]
[4, 1, 3]
[0, 2, 6]
[7, 5, 8]
[0, 1, 3]
[4, 2, 6]
[7, 5, 8]
[1, 0, 3]
[4, 2, 6]
[7, 5, 8]
[1, 2, 3]
[4, 0, 6]
[7, 5, 8]
[1, 2, 3]
[4, 5, 6]
[7, 0, 8]
[1, 2, 3]
[4, 5, 6]
[7, 8, 0]
```