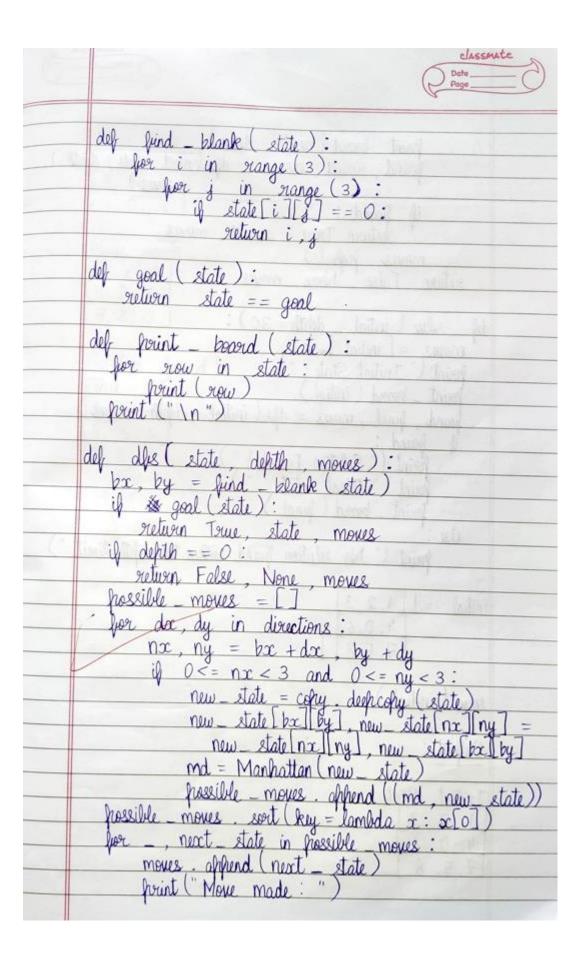
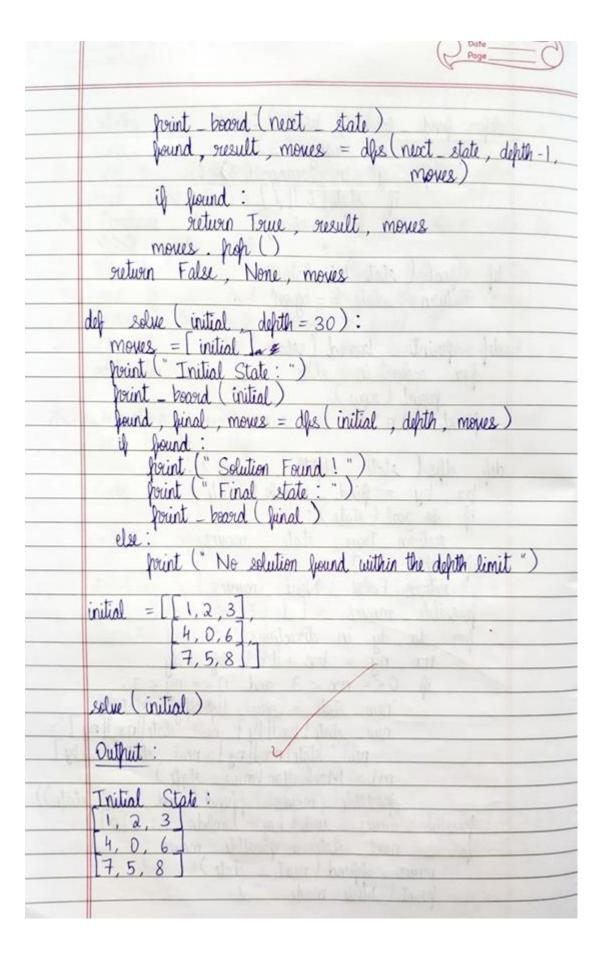
Lab-3: 8 puzzle p Observation book:		 413441160



	Page 10 2024 10 2024
	8- Puzzle:
	DES: Marshatlan Distance ! DES! Manhatlan Distance
ð	Algorithm:
¥	Tritaline to
*	Initialize the goal accrey in a function. This function returns True if current state matches the goal. Else false.
1	motches the and Few solos
- 1	the your. the park.
*	Define 4 sunctions: More left, more right,
	move up, more down.
100	
X	Identify the position of the blank tile.
-1	If county, make a move from the
	speighbouseing 2 tiles
-	It center, make a now for the neighbouring
1	
1	Else make a more for the neighbouring 3 tiles
X	For every more, check the Manhattan distance.
	It is it is
	#
	Algorithm:
*	Referent the fruzzle state as a list where O supresents the empty space. Define a function to check if the current state matches the goal state. Define a function to calculate the Manhattan Distance for a given state. Define a function to return a list of new
	O reposeerts the ampter space
*	Define a function to check if the assessment of at
	matches the goal state.
X	Define a function to calculate the Manhotton
	Distance por a given state.
V	Dolling a function to to

	Page (
	states and their updated positions upon making a
	mewe.
*	use a stack to store the states after each mone.
*	Compare the top element of this stack with the
-	To it is a motion the states
1020	one by one, and add it to the frath array.
0	Kellerse the frath arrival to point it.
1:	ene by ene, and add it to the frath array. Reverse the frath array to fruint it. If not a match, make the next move and add the new state ento the stack.
	Maintain uniqueness of the states to avoid an infinite logh.
	Code:
ANTON.	
9	import capu
300	import copy
n ditt	I the model of man have a short war !
100	directions = $[(-1,0), (1,0), (0,-1), (0,1)]$
100	directions = $[(-1,0), (1,0), (0,-1), (0,1)]$ goal = $[[1, 2, 3],$
100	directions = $[(-1,0), (1,0), (0,-1), (0,1)]$ goal = $[[1, 2, 3], [4, 5, 6]$
100	directions = $[(-1,0), (1,0), (0,-1), (0,1)]$ goal = $[[1, 2, 3],$
alit i	directions = $[(-1,0), (1,0), (0,-1), (0,1)]$ goal = $[[1,2,3], [4,5,6], [7,8,0]]$
alid a	directions = $[(-1,0), (1,0), (0,-1), (0,1)]$ goal = $[[1, 2, 3], [4, 5, 6]$
Diffe.	directions = $[(-1,0), (1,0), (0,-1), (0,1)]$ goal = $[[1,2,3], [4,5,6], [7,8,0]]$ def Manhatlan (state): d = 0
Tolks.	directions = $[(-1,0), (1,0), (0,-1), (0,1)]$ goal = $[1, 2, 3],$ [4, 5, 6], [7, 8, 0]] def Manhatlan (state): d = 0 for i in range (3):
Dille Sund	directions = $[(-1,0), (1,0), (0,-1), (0,1)]$ goal = $[[1,2,3], [4,5,6]$ [7,8,0]] def Manhatlan (state): d = 0 for i in range (3): for j in range (3):
Annu Annu	directions = $[(-1,0), (1,0), (0,-1), (0,1)]$ goal = $[[1,2,3], [4,5,6]$ [7,8,0]] def Manhatlan (state): d = 0 for i in range (3): for j in range (3): if state $[i][j] != 0$:
Parent State	directions = $[(-1,0), (1,0), (0,-1), (0,1)]$ goal = $[[1,2,3],$ [4,5,6] [7,8,0]] def Manhatlan (state): d=0 for i in range (3): for j in range (3): [3] state $[i][j]$! = 0: [3] gx, gy = divined (state $[i][j]$ -1, 3
Dille Rases State	directions = $[(-1,0), (1,0), (0,-1), (0,1)]$ goal = $[[1,2,3], [4,5,6]$ [7,8,0]] def Manhatlan (state): d = 0 for i in range (3): for j in range (3): if state $[i][j] != 0$:





	Date Page
	Mour as Is i
	Move made:
	[4, 5, 6]
	7,0,8
	Maria de la constantina del constantina de la constantina de la constantina del constantina de la constantina de la constantina del constantina del constantina de la constantina del
internal	Move made: [1, 2, 3]
	[4, 5, 6]
	[4, 5, 6] [7, 8, 0]
teilarus	For Alle Special all the club
	Solution found? Final state:
	[1, 2, 3]
	[4, 5, 6]
	[7,8,0]
	a Commission of the fact that I had
0	
neilte	19/11
	and the state of t
MA	the street of addition to the most
torus,	12 dall families have their productions
	Land Limit has travel
- 13	alastically too that what it is
	and and another witness the state of the sta
Supra.	This person that and another religion to
	THE SECOND STATE OF THE PARTY O

Output:

```
Enter row 1: 1 0 3
Enter row 2: 4 2 6
Enter row 3: 7 5 8
Solution found:
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

Nikhilesh C 1BM22CS181
```