

## UNIVERSITY OF KARACHI (UOK)

ACADEMIC YEAR-2021

DEPARTMENT OF COMPUTER SCIENCE

MORNING PROGRAMME

MCS (FINAL)- 4th SEMESTER

COURSE TITLE: "ARTIFICIAL INTELLIGENCE"

COURSE CODE: CS-616

SUBMITTED TO:

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SUBMITTED BY:

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ENROLLMENT NO: SCI/DCS/KU-7276/2019

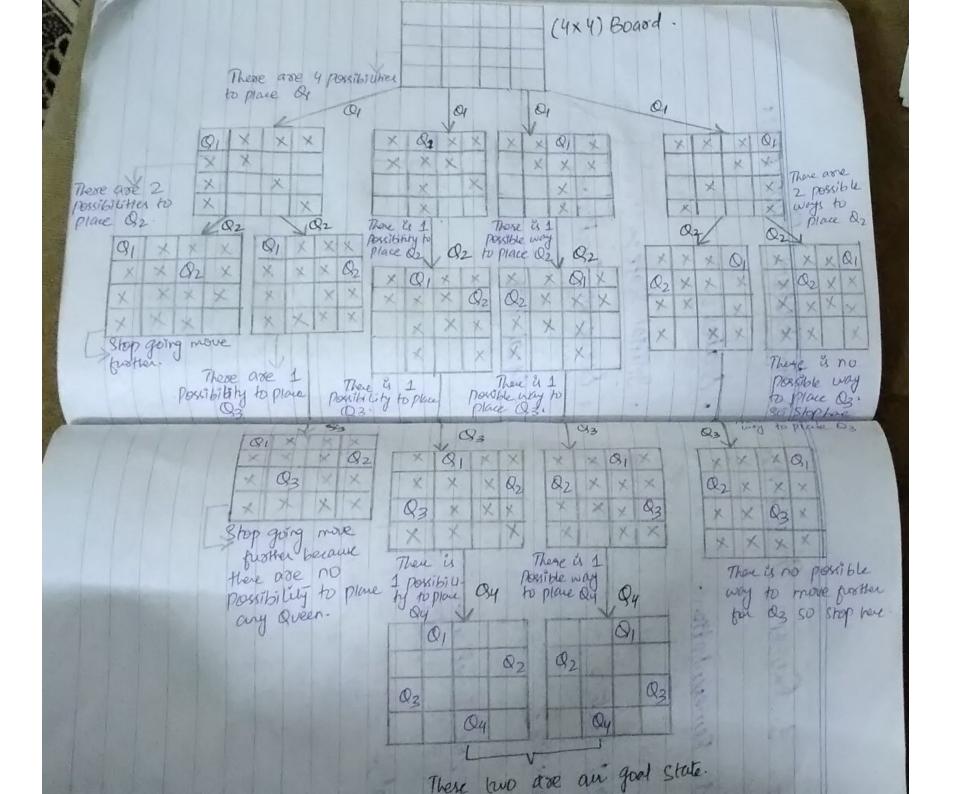
## ASSIGNMENT # "01" 1) THE 8-PUZZLE PROBLEMS Goal Stare Start State Solution · States :- a State description specifies the location of each of the eight tiles and blank in one of the nine squares.

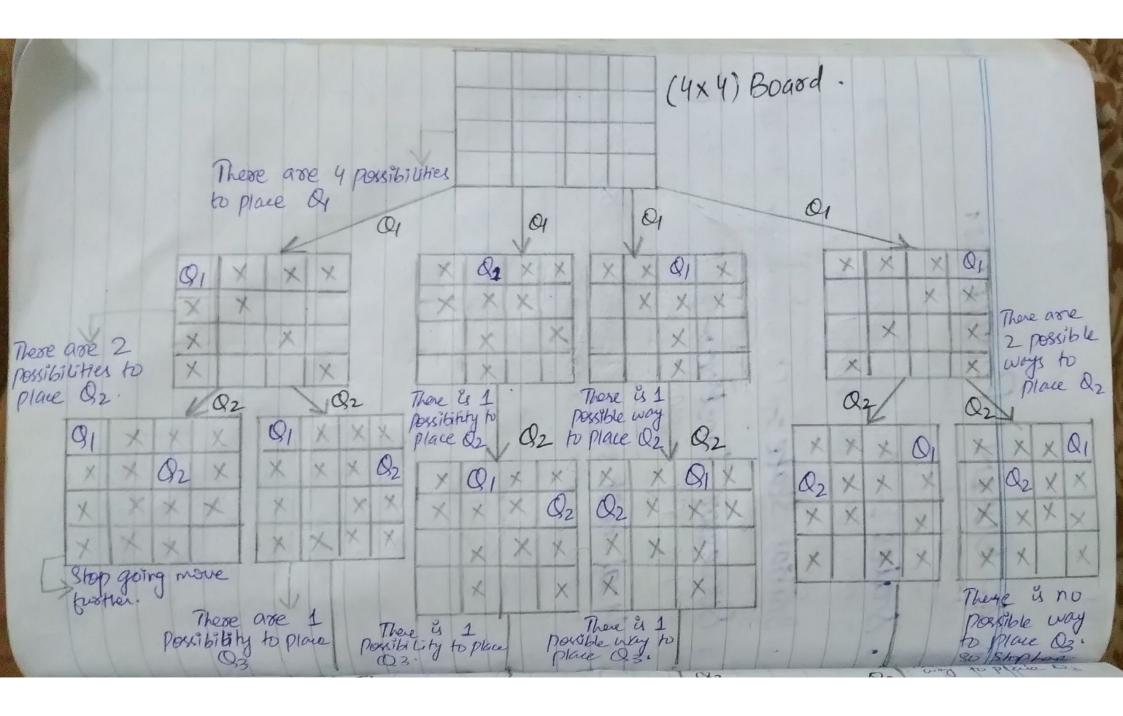
- · In State :- Any state in State space.
- · Successor function: the blank moves heft, Right, Up 00 Down.
- o Goal test: current state mother the goal configuration.
- o Path cost is just the length of the path

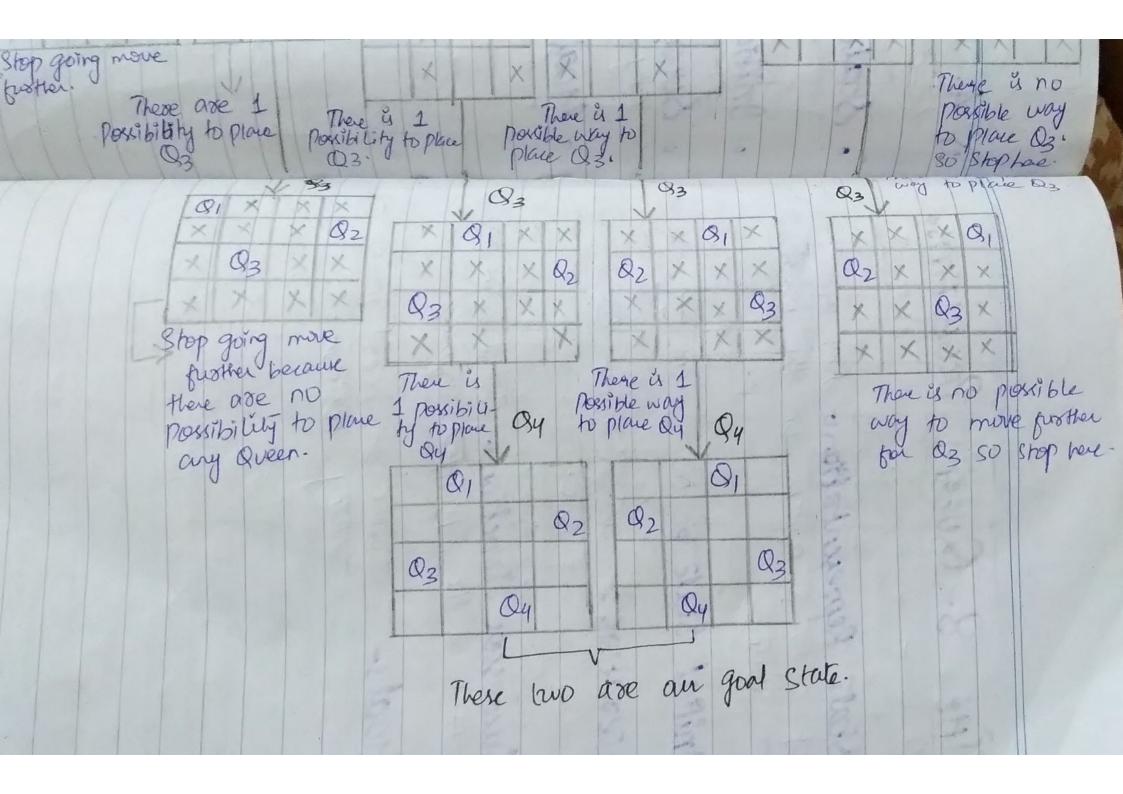
7 - 8	5 3	4 6 1		7 8	2 5 3	4 6 1	2 7 8	- 5 3	4 6 1	
2 7 8	5 - 3	4 6. 1		2 7 8	5 6 3	4   - 1	2 7 8	5 6 3	4 1 -	
2 7 8	25	4 1 3		2 7 -	5 6 8	4 1 3	2 - 7	5 6 8	4 1 3	
2 6 7	5 - 8	4 1 3		2 6 7	5 1 8	4 - 3	2 6 7	5 1 8	3 -	
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2 6 7	5	3 8		2 6 -	5 1 7	3 8	2   6	5. 1	3 8	

2 1 6	- 3 7	5 4 8	1-16	2   3   7	5   4   8	1 6	2 3 7	6/2/8
1 3 6	2 - 7	5 4 8	1 3 6	2   4   7	5   8	3 6	2 4 7	1-15-8
•		3 6	1-14	2 5 8	3 6	1 4 7	2 5 8	

A Queen Door
4-QUEEN PROBLEM:
States 3- Any assargement of 0 to 4 gueens on the board is a State.
. Initial State :- No queens on the board
Successor Function: Add a queen to any empty square.
board, none attacked.







## THE 8-QUEEN PROBLEMS.

Solution o

- o State Representation or Any avoragement of 0 to 8 queens on the board is a state.
- · gritial State or NO queens on the board.
- · Operators: Add a queen to any emp
- · Successor Finction · Board with agreen added to the specified square.
- o Goal: 8 Overs on board in nonattacking position.

