Practical -1

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\karan\OneDrive\Desktop\New folder\python> & C:/
ic_tac.py"
 | |
-+-+-
 | |
-+-+-
 | |
It's your turn,X.Move to which place?
```

```
It's your turn,X.Move to which place?
1
 | |
-+-+-
 | |
-+-+-
X| |
```

```
It's your turn,X.Move to which place?
5
 | |
-+-+-
 |X|
-+-+-
X| |
```

```
It's your turn,O.Move to which place?
2
 |O|
-+-+-
 |X|
-+-+-
X|O|
```

```
It's your turn,O.Move to which place?
8
 |O|
-+-+-
 | |
-+-+-
X| |
```

```
It's your turn,X.Move to which place?
9
 |O|X
-+-+-
 |X|
-+-+-
X|O|

Game Over.

 **** X won. ****
Do want to play Again?(y/n)
```

Practical -2

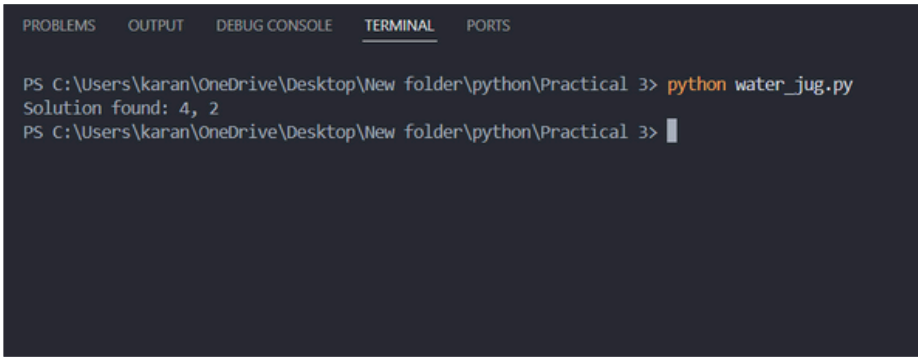
```
Please enter number from 0-8, no number should be repeated or be out of this range
Enter the 1 number: 2
Enter the 2 number: 0
Enter the 3 number: 3
Enter the 4 number: 1
Enter the 5 number: 4
Enter the 6 number: 5
Enter the 7 number: 6
Enter the 8 number: 7
Enter the 9 number: 8
```

```
Goal_reached
printing final solution
Move : None
Result :
[[2. 0. 3.]
 [1. 4. 5.]
 [6. 7. 8.]]    node number:0
Move : left
Result :
[[0. 2. 3.]
 [1. 4. 5.]
 [6. 7. 8.]]    node number:2
Move : down
Result :
[[1. 2. 3.]
 [0. 4. 5.]
 [6. 7. 8.]]    node number:8
Move : right
Result :
[[1. 2. 3.]
 [4. 0. 5.]
 [6. 7. 8.]]    node number:23
Move : right
```

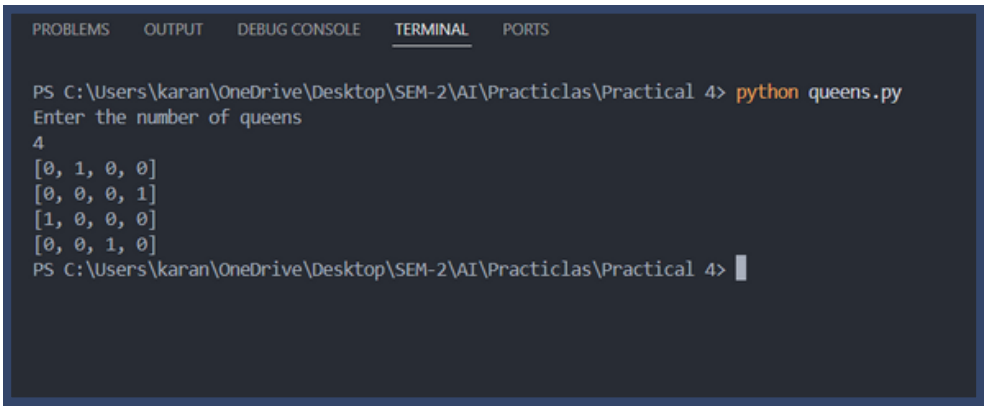
```
The puzzle is solvable, generating path
Exploring Nodes
c:\Users\karan\OneDrive\Desktop\New folder\python\Practical 2\main.py:34: DeprecationWarning: Conversion of an array with ndim > 0 to a scalar is deprecated
, and will error in future. Ensure you extract a single element from your array before performing this operation. (Deprecated NumPy 1.25.)
  i = int(i)
c:\Users\karan\OneDrive\Desktop\New folder\python\Practical 2\main.py:35: DeprecationWarning: Conversion of an array with ndim > 0 to a scalar is deprecated
, and will error in future. Ensure you extract a single element from your array before performing this operation. (Deprecated NumPy 1.25.)
  j = int(j)
```

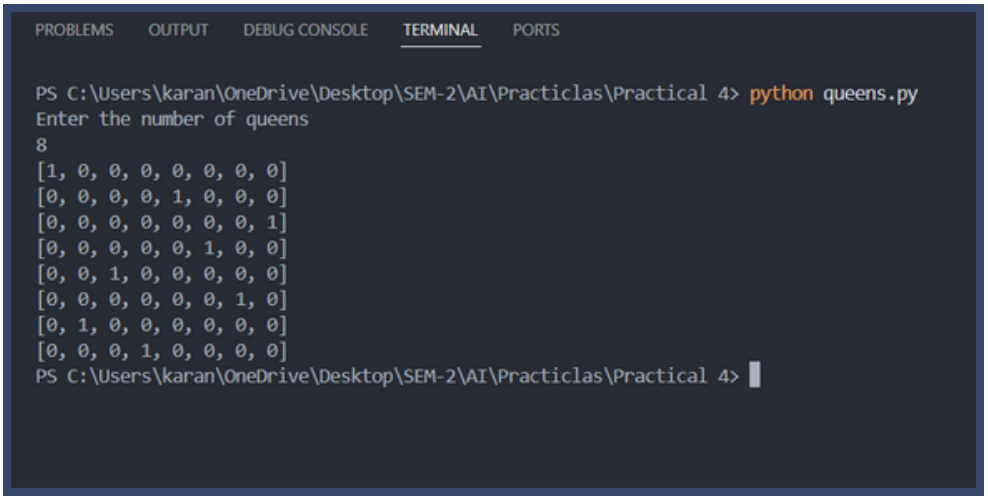
```
Result :
[[1. 2. 3.]
 [4. 0. 5.]
 [6. 7. 8.]]    node number:23
Move : right
Result :
[[1. 2. 3.]
 [4. 5. 0.]
 [6. 7. 8.]]    node number:44
Move : down
Result :
[[1. 2. 3.]
 [4. 5. 8.]
 [6. 7. 0.]]    node number:78
Move : left
Result :
[[1. 2. 3.]
 [4. 5. 8.]
 [6. 0. 7.]]    node number:144
Move : left
Result :
[[1. 2. 3.]
 [4. 5. 8.]
 [0. 6. 7.]]    node number:259
Move : up
Result :
[[1. 2. 3.]
 [0. 5. 8.]
 [4. 6. 7.]]    node number:431
Move : right
```

practical-3


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\karan\OneDrive\Desktop\New folder\python\Practical 3> python water_jug.py
Solution found: 4, 2
PS C:\Users\karan\OneDrive\Desktop\New folder\python\Practical 3>

practical-4


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\karan\OneDrive\Desktop\SEM-2\AI\Practiclas\Practical 4> python queens.py
Enter the number of queens
4
[0, 1, 0, 0]
[0, 0, 0, 1]
[1, 0, 0, 0]
[0, 0, 1, 0]
PS C:\Users\karan\OneDrive\Desktop\SEM-2\AI\Practiclas\Practical 4>


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\karan\OneDrive\Desktop\SEM-2\AI\Practiclas\Practical 4> python queens.py
Enter the number of queens
8
[1, 0, 0, 0, 0, 0, 0, 0]
[0, 0, 0, 0, 1, 0, 0, 0]
[0, 0, 0, 0, 0, 0, 0, 1]
[0, 0, 0, 0, 0, 1, 0, 0]
[0, 0, 1, 0, 0, 0, 0, 0]
[0, 0, 0, 0, 0, 0, 1, 0]
[0, 1, 0, 0, 0, 0, 0, 0]
[0, 0, 0, 1, 0, 0, 0, 0]
PS C:\Users\karan\OneDrive\Desktop\SEM-2\AI\Practiclas\Practical 4>