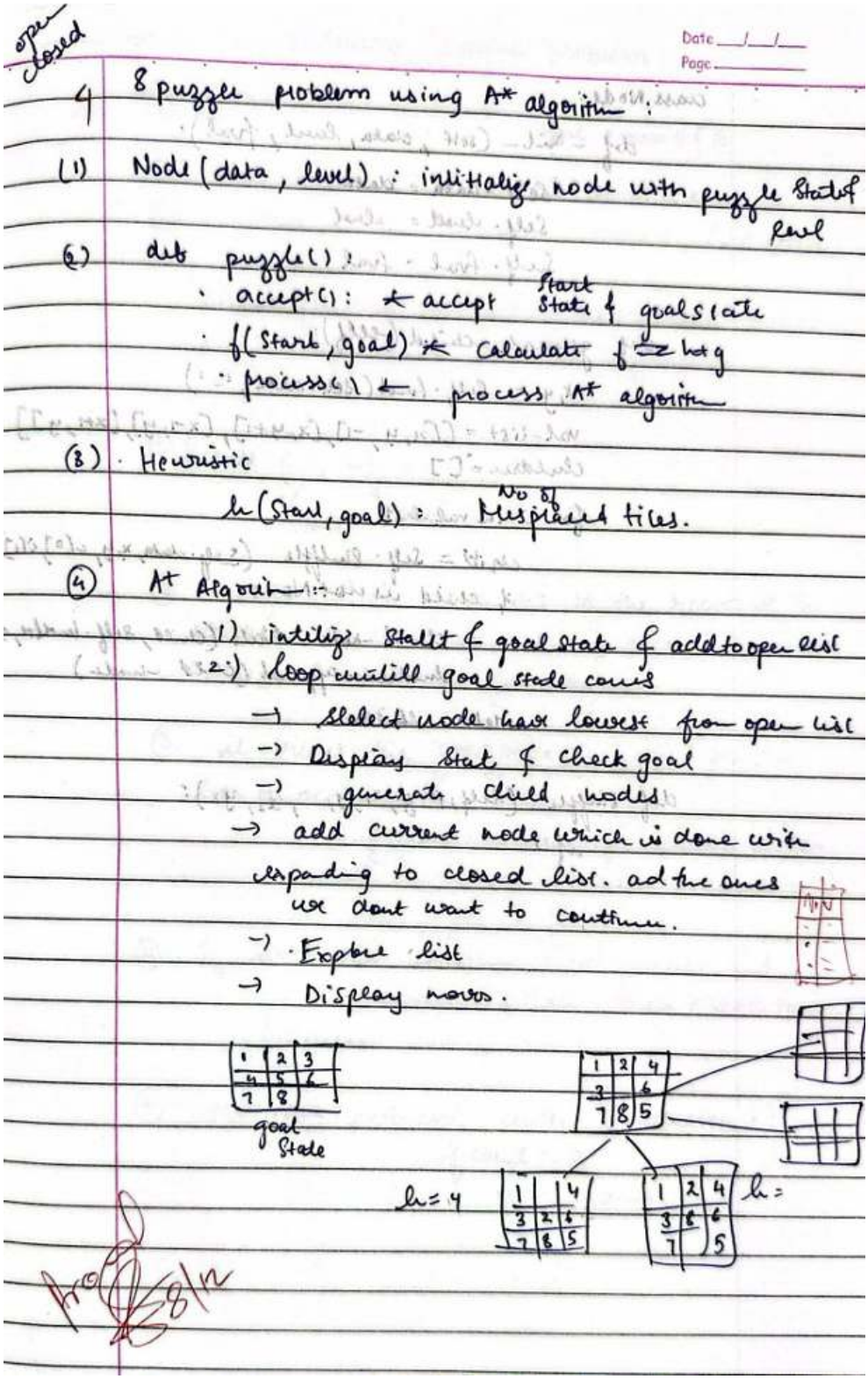
8 puzzle A*
Code:-



```
class Node:
    def __init__(self, data, level, fval):
        self.data = data
        self.level = level
        self.fval = fval

    def generate_child(self):
        x, y = self.find(self.data, '_')
        val_list = [[x, y-1], [x, y+1], [x-1, y], [x+1, y]]
        children = []
        for i in val_list:
            child = self.shuffle(self.data, x, y, i[0], i[1])
            if child is not None:
                child_node = Node(child, self.level+1,
                children.append(child_node)
        return children

    def shuffle(self, puz, x1, y1, x2, y2):
        if
```

output:-

main.py

```
88          print("Enter the goal state matrix \n")
89          goal = self.accept()
90
91          start = Node(start,0,0)
92          start.fval = self.f(start,goal)
93          """ Put the start node in the open list"""
```

```
Enter the start state matrix

1 2 3
4 5 6
_ 7 8
Enter the goal state matrix

1 2 3
4 5 6
7 8 _




  |
  |
 \'/

1 2 3
4 5 6
_ 7 8

  |
  |
 \'/

1 2 3
4 5 6
7 _ 8

  |
  |
 \'/

1 2 3
4 5 6
7 8 _


...Program finished with exit code 0
Press ENTER to exit console.
```