

Code :-

class Node:

def \_\_init\_\_(self, data, level, fval):

self.data = data

self.level = level

self.fval = fval

def generate\_child(self):

u, y = self.find(self.data, '-')

val\_list = [C<sub>u</sub>, y-1], [C<sub>u</sub>, y+1], [C<sub>u+1</sub>, y]

children = []

for in\_val in val\_list:

child = self.shuffle(self.data, u, y, in\_val[0], in\_val[1])

if child is not None:

child\_node = Node(child, self.level + 1, 0)

```
children.append(child_node)
return children
```

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

```
    if x2 >= 0 and x2 < len(self.data)
    and y2 >= 0 and y2 < len(self.data):
```

```
        temp_puz = [ ]
```

```
        temp_puz = self.copy(puz)
```

```
        temp_puz[x2][y2] = temp_puz[x1][y1]
```

```
        temp_puz[x1][y1] = temp
```

```
        return temp_puz
```

```
    else:
```

```
        return None
```

```
def copy(self, root):
```

```
    temp = [ ]
```

```
    for i in root:
```

```
        t = [ ]
```

```
        for j in i:
```

```
            t.append(j)
```

```
    return temp
```

```
def find(self, puz, u)
```

```
    for i in range(0, len(self.data)):
```

```

for i in range(0, len(self.data)):
    if puz[i][j] == u:

```

```

return a, j

```

```

class Puzzle:
    def __init__(self, size):

```

```

        self.n = size

```

```

        self.open = []

```

```

        self.closed = []

```

```

    def accept(self):

```

```

        puz = []

```

```

        for i in range(0, self.n):

```

```

            temp = input().split(" ")

```

```

            puz.append(temp)

```

```

        return puz

```

```

    def f(self, start, goal):

```

```

        return self.h(start, data, goal)

```

```

        + start.level

```

```

    def h(self, start, goal):

```

```

        temp = 0

```

```

        for i in range(0, self.n):

```

```

            for j in range(0, self.n):

```

```

                if start[i][j] != goal[i][j]

```

```

                    and start[i][j] !=

```

```

                        temp += 1

```

Retour temp [0] jusqu'à l'is

```
def process(self):
    print("Enter the start state matrix")
    start = self.accept()
    print("Enter the goal state matrix")
    goal = self.accept()
```

```
start = Node(start, 0, 0)
start.fval = self.f(start, goal)
self.open.append(start)
print("\n")
while True:
    cur = self.open[0]
    print(" ")
    print(" | ")
    print(" \\\'\' / \n")
    for i in cur.data:
        for j in i:
            print(j, end=" ")
        print(" ")
    if (self.h(cur.data, goal) == 0):
        break
    for i in cur.generate_child():
        i.fval = self.f(i, goal)
        self.open.append(i)
    self.closed.append(cur)
```



del self.open[0] ~~final~~ ~~non~~

self.open.sort(key = lambda x:  
x.val, reverse=False)

puz = puzzle(3)

✓

(0,0,two) abolt = two

(loop,two) f.floz = last.two

(two) loop.floz

print("\n")

write three

[0]two.floz = x

print("\n")

print("\n")

print("\n")

for i in range

for i in

print(i,end=" ")

print("\n")

if (loop,abolt) == (two,0):

for i in range

print

if (loop,i) == (two,0):

if (loop,i) == (two,0):

self.open.sort

loop,abolt = two,0