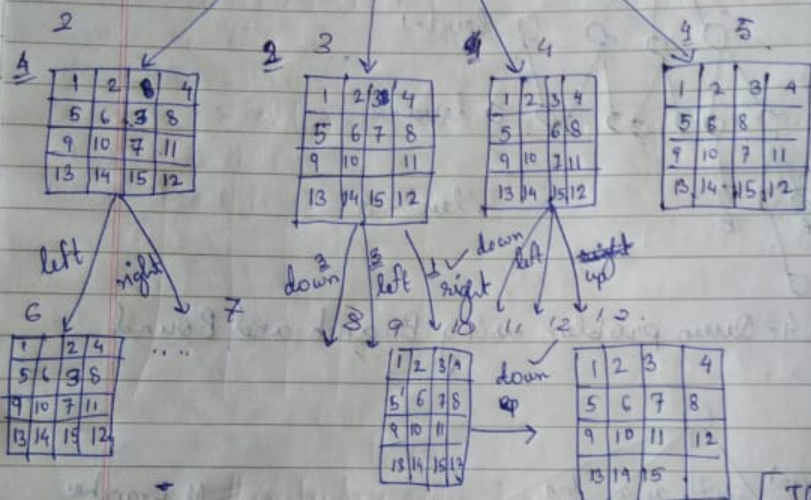
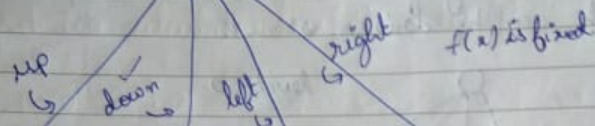
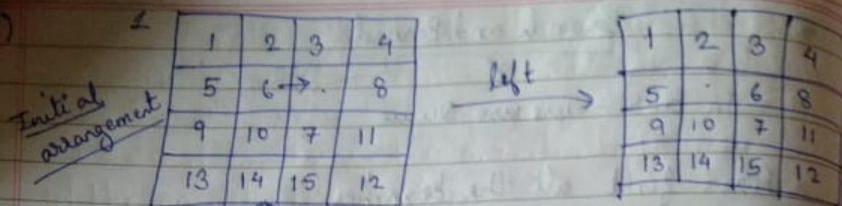


No backtracking is used

Search



If we apply some move (up/down) and get the initial arrangement stop

(X) Boundary function

Q) Attempting to search this state space for the goal state it could be to determine whether the goal state is reachable from the initial stage.

Date: / /

10/5/2022

Ques

$\hat{c}(x)$ is the estimated mean cost to reach to the goal node.

$f(x)$ is the length of the path from the root to node x .

$g(x)$ is the path from the root to the node.

It is the estimate of length of a shortest path from x to a goal node in the subtree with a root x .

$$\hat{c}(x) = f(x) + g(x)$$

P class \rightarrow Finding greatest common divisor

NP class \rightarrow Graph colouring

$$\hat{c}(1) = 0 + 3 = 3$$

$$\hat{c}(2) = 1 + 4 = 5$$

$$\hat{c}(3) = 2 + 1 = 3$$

$$\hat{c}(8) = 2 + 1 = 3$$

$$\hat{c}(20) = 3 + 0 = 3$$

1	2	3	4
5	6		8
9	10	7	11
13	14	15	12

1(a)

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	

1(b)
(goal)

reference for x

	11	11
11		11
	11	11
11		11

1(c)

The goal node of fig 1(b) is reachable from the initial stage

$$\text{iff } \sum_{i=1}^{16} \text{len}(i) + x \text{ is even}$$

Let $\text{position}(i)$ be the position number in the initial state of the tiles number i . For any state let $\text{less } i$ be the number of tiles j such that $j < i$ and $\text{pos}(j) > \text{pos}(i)$

Law of Independent assortment :- It states that alleles are inherited independently within H₁ and produce sexually.

Date: / /

let $x = 1$ if in the initial state the empty spot is at one of the shaded position of the figure 1(c) and $x = 0$ if empty spot is initially in any of the non-shaded position.

first we calculate $less(i) \rightarrow less(1)$

$1 \rightarrow 0$ $2 \rightarrow 0$ $3 \rightarrow 0$ $4 \rightarrow 0$ $5 \rightarrow 0$ $6 \rightarrow 0$ $7 \rightarrow 0$

$8 \rightarrow 1$ $9 \rightarrow 1$ $10 \rightarrow 1$ $11 \rightarrow 0$ $12 \rightarrow 0$

$13 \rightarrow 1$ $14 \rightarrow 1$ $15 \rightarrow 1$ $16 \rightarrow 1$

$\leq less(i) + x = 15 + 1 = \text{even so goal is reachable}$

1	3	4	15
2		5	12
7	6	11	14
8	9	10	13

Prims

#include <stdio.h>

#include <stdlib.h>

#define infinity 9999

#define MAX 20

int G[MAX][MAX], spanning[MAX][MAX], n;

int prims;