
算法 1: 两道工序RGV工作流程(有故障)

Input: $t, updown[2], T, clean, location, Clocation, proportion, cncnow$

Output: ans

```
1 begin
    // 枚举工作第一道工序的CNC编号排列,找到最优解
2   arr = [1,2,3,4,5,6,7,8]
3   while next_permutation(arr, arr+size) do
4       | solve(arr of porportion numsize)
5   end
6   return ans
7 end

8 void solve( int v[proportion])
9 {
10  ending , time , flag , RGVhand = 0
    // 初始上料
11  根据v的顺序依次给对应CNC上料
    // 根据智能调度算法进行模拟
12  while time ≤ 28800 do
13      调用RGV智能调度算法(21)得出下一个要处理的CNC编号k
          time = time + max( $t_{Clocation_k, location}, T_k$ )
14      location = Clocationk
15      RGVhand = cncnowk
16      cncnowk = flag?RGVhand : knew
17      time = time + updownk&1
18      if flag is true then
19          | time = time + clean ; ending = ending + 1
20      end
21      flag = flag ⊕ 1
22      给当前的CNC随机是否故障和故障时间以及维修时间
23      记录故障各个数据, 将当前CNC上物料后续工作时间都设
          为-1
24  end
25  ans = max(ans, ending)
26 }
```
