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**Algorithm 1:** Feasibility Check

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**Input:**  $M_{(p,i)}$ : of modules in panel  $p$  at current  $i$ ;  
 $P$ : of panels;  $S$ : of strings;  
 $Q_M$ : minimum of modules per-string;  
**Output:** Feasibility Result;  
Conf: Configuration Result;

```
1 for each  $k$  ( $1 \leq k \leq S - 1$ ), Panel  $p$  do
2   | Loss[ $p, k$ ] =  $M_{(p, S-k)} - M_{(p, S-(k+1))}$ 
3 end
4 ( $p_0^*, p_1^*, \dots, p_{P-1}^*$ ) sorted by lexicographical permutation in terms of
   Loss;
5 for each  $j$  ( $S \geq j \geq 2$ ) do
6   | for each  $p^*$  do
7     | if  $\sum M_{(p^*, j)} \geq Q_M$  then
8       | while  $M_{(p_n^*, j)} == 0$ , ( $0 \leq n \leq P - 1$ ) do
9         |   release Panel  $p_n^*$  in  $p^*$ 
10      | end
11      | if  $\sum M_{(p^*, j)} == Q_M$  then
12        |   Conf =  $M_{(p^*, j)}$ 
13      | else
14        |   Do Panel Swap
15      | end
16    | else
17      | Feasibility = No
18    | end
19  | end
20 end
21 if  $\sum M_{(p^*, 1)} \geq Q_M$  then
22   | Feasibility = Yes;
23   | Conf = select +  $M_{(p^*, 1)}$ 
24 else
25   | Feasibility = No
26 end
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**Algorithm 2:** Panel Swap

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Table = Table - select\* y]

**Input:**  $M_{(p^*,j)}, Q_M$   
**Output:** Conf.

```
1 Over =  $\sum M_{(p^*,j)} - Q_M$  ;
2 if  $M_{(p_x^*,j)} == Over$ , for each  $x$  in  $p^*$  then
3   | release Panel  $p_x^*$  in  $p^*$ ;
4   | Conf =  $M_{(p^*,j)}$  ;
5 else
6   | for each  $y$  in  $p^*$  do
7     | if  $\sum M_{(p_y^*,j)} == 3$  and each  $M_{(y,j)} == 1$  then
8       | end
9     | end
10 end
11 for  $y, (1 \leq y \leq \text{length}(\text{select}))$  do
12   | if  $\sum \text{select}[y] == 3$  and  $\text{select}[y] == 1$  then
13     | for  $k=j+1, k \leq NP, k++$  do
14       | if  $\text{Table}[i,k] == 3$  then
15         | | select = select + Table[i,k]
16       | end
17     | end
18   | end
19   | if  $\sum \text{select}[y] == 3$  and  $\text{select}[y] == 1$  and  $\text{select}[y+1] == 2$  then
20     | for  $k=j+1, k \leq NP, k++$  do
21       | if  $\text{Table}[i,k] == 3$  then
22         | | select = select + Table[i,k]
23       | end
24     | end
25   | end
26   | if  $\sum \text{select}[y] == 2$  and  $\text{select}[y] == 1$  then
27     | for  $k=j+1, k \leq NP, k++$  do
28       | if  $\text{Table}[i,k] == 2$  then
29         | | select = select + Table[i,k]
30       | end
31     | end
32   | end
33   | select* = select-select[y];
34 end
```

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