Algorithm 1: Feasibility Check

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;

for each k $(1 \leq k \leq S-1)$, Panel p **do**
  Loss[p,k] = $M_{(p,S-k)} - M_{(p,S-(k+1))}$
end
$(p_0^*, p_1^*, ..., p_{P-1}^*)$ sorted by lexicographical permutation in terms of ***Loss***;
for each j $(S \geq j \geq 2)$ **do**
  for each p^* **do**
    if $\sum M_{(p^*,j)} \geq Q_M$ **then**
      while $M_{(p_n^*,j)} == 0$, $(0 \leq n \leq P-1)$ **do**
        release Panel p_n^* in p^*
      end
      if $\sum M_{(p^*,j)} == Q_M$ **then**
        Conf = $M_{(p^*,j)}$
      else
        Do Panel Swap
      end
    else
      Feasibility = No
    end
  end
end
if $\sum M_{(p^*,1)} \geq Q_M$ **then**
  Feasibility = Yes;
  Conf = select + $M_{(p^*,1)}$
else
  Feasibility = No
end

Algorithm 2: Panel Swap

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

Over = $\sum M_{(p^*,j)}$ - Q_M ;
if $M_{(p_y^*,j)}$ == *Over,* **for each** Panel *y in* p^* **then**
    release Panel p_y^* in p^*;
    Conf = $M_{(p^*,j)}$;
else
    for each panel *y, y in* p^* **do**
        if $\sum M_{(p_y^*,j)}$ == *3* **and** $M_{(p_y^*,j)}$ == *1* **then**
            Swap Panel $p_x{}^*$ and Panel p_y^*,
            $M_{(p_x{}^*,j)}$ == 3, x > y
        end
        if $\sum M_{(p_y^*,j)}$ == *3* **and** $M_{(p_{y1}^*,j)}$ == *1,* $M_{(p_{y2}^*,j)}$ == *2* **then**
            Swap Panel p_x^* and [Panel p_{y1}^*, p_{y2}^*],
            $M_{(p_x{}^*,j)}$ == 3, x>y1>y2
        end
        if $\sum M_{(p_y^*,j)}$ == *2* ***and*** $M_{(p_y^*,j)}$ == *1* **then**
            Swap Panel p_x^* and Panel p_y^*,
            $M_{(p_x^*,j)}$ == 2, x > y
        end
    end
    Conf = $M_{(p^*,j)}$
end