Algorithm 1 Skyline-Search-without-Merge

Input: $D = \{(x_i, y_i) | i = 1, 2, ..., n\}$: the points in the plane;
Output: D': the remain points in the plane that can not be conquered;

initial $D' = \Phi$;
if $D = \Phi$ **then**
    return D';
else if D has only one point (x_0, y_0) **then**
    return $D' = (x_0, y_0)$;
else
    sort all the points in D based on the value of x and we have $x'_1 < x'_2 < ... < x'_n$';
    initial $L = [(x'_1, y'_1), ..., (x'_n, y'_n)]$;
    initial $p = L[n]$;
    for $i = n$ to 1 **do**
        if y of $i > y$ of p **then**
            add i to D';
        end if
    end for
    return D';
end if