input : A bitmap Im of size $w \times l$
output : A partition of the bitmap
parameter: A parameter for the algorithm

```
special treatment of the first line;
for i ← 2 to l do
    special treatment of the first element of line i;
    for j ← 2 to w do
        left ← FindCompress(Im[i, j − 1]);
        up ← FindCompress(Im[i − 1, ]);
        this ← FindCompress(Im[i, j]);
        if left compatible with this then // O(left,this)==1
            if left < this then Union(left,this);
            ;
            else Union(this,left);
            ;
        end
        if up compatible with this then                    // O(up,this)==1
            if up < this then Union(up,this);
            ;
            // this is put under up to keep tree as fla as
               possible
            else Union(this,up);
            ;                                       // this linked to up
        end
    end
    foreach element e of the line i do FindCompress(p);
end
```

Algorithm 1: disjoint decomposition