Algorithm 1 Calculation of crowd layout

```
1: for i = 0; i < height(A); i + + do
      for j = 0; j < width(A); j + + do
2:
         max = -Infinity;
3:
          for all k do
4:
             A[i][j] = k;
5:
             f = f(A);
6:
             if f > max then
7:
                max = f;
8:
                maxK = k;
9:
10:
             end if
         end for;
11:
         A[i][j] = maxK;
12:
      end for
13:
14: end for
```