

## Marking Scheme – Sky Garden

### 1. Correctness (70%)

- a. Input (10%) – Input is read in correctly from the standard input.
- b. Output (10%) – Output is done according to the problem statement.
- c. Correct maximum points (50%):
  - keeps the stack in decreasing order of height (15%)
  - able to pop “seen” elements from the stack (15%)
  - calculate the correct number of people seen for each person (10%)
  - Pushes and pops each element at most once (linear time complexity) (10%)

### 2. Programming Style (30%) – Award this component if they score at least 20% for correctness

#### a. Meaningful Comments (10%)

- Pre- and Post- conditions (5%)
  - Each method and function must have pre- and post- condition.
  - **Pre- and post- conditions must be correct!**

Deduct marks proportional to the number of methods / functions with them:

- Ignore comments in unused functions
- Ignore comments from skeleton file
- Post-condition should depend on the algorithm
- Pre-condition should also depend on the algorithm

- Other Comments (5%)
  - No other comments at all (deduct 5%)
  - Has very few comments (deduct 2%)

#### b. Modularity (10%)

- Only main method (deduct 5%)
- Global variables (deduct 5%)
- Improper modifiers (public / private / protected) (deduct 3%)
  - ➔ There should be some reason to use public, otherwise attributes and helper methods should be private.

#### c. Proper Indentation (5%)

- Start each line in column 1 (i.e. no indentation at all): deduct 5%
- Inconsistent indentation for more than 5 lines: deduct 2% - 3%
- Only a few lines are improperly indented (1 to 5 lines): deduct 1%

#### d. Meaningful Identifiers (5%) [note: for both **variables** and **method** names]

- Use only single character variables and/or methods (besides the one given in the problem statement or for loop counters): deduct 5%
- Some names are not meaningful: deduct 2%

### 3. Compilation Error: Deduct 50% from total marks obtained.

**Note: Provide explanation on why certain marks are deducted in the remarks column. Most importantly, comment on their submission to help them improve their program.**