S2 Appendix. Algorithm 2: Computing Number of Visitors without Double Counting for a Single Configuration*

*Note:

A configuration defines which subset of IDs from the set of all candidate sites should be optimized (e.g. selecting 2 RHU sites for upgrading).

**Input:**

(1) `site_list`: List of site IDs based on the defined configuration,
(2) `pop`: List of population values at each population point for the entire city,
(3) `exp_visitors`: Matrix of expected visitors (of size: n_population_points x n_facilities, eq 2). We use this as a reference

**Algorithm:**

1. `total_visitors_count` ← 0
2. For `site_id` in `site_list`:
   a. `actual_demand` ← List of the number of visitors from each population point that may travel to the site (`site_id`) to the site corresponding to `site_id`, Calculated as the minimum value between the remaining population (`pop`) and the expected number of visitors from the population point (`exp_visitors at site_id`)
   b. `pop` ← Reduce the remaining population at each population point (`pop`) by the `actual_demand at site_id`
   c. `total_visitors_count` ← Increment the number of visitors for this configuration (`total_visitors_count`) by the number of visitors contributed by `site_id` (`sum(actual_demand)`) 

**Output:** Total expected visitors `total_visitors_count` for the defined configuration