1.1 Devise formulas for the functions that calculate `my_first_i` and `my_last_i` in the global sum example. Remember that each core should be assigned roughly the same number of elements of computations in the loop. *Hint:* First consider the case when `n` is evenly divisible by `p`.

1.3 Try to write pseudo-code for the tree-structured global sum illustrated in Figure 1.1. Assume the number of cores is a power of two (1, 2, 4, 8, …).

1.6 Derive formulas for the number of receives and additions that core 0 carries out using
   a. the original pseudo-code for a global sum, and
   b. the tree-structured global sum.