12371 - LAB 09

Instructions

1. Access the auto-grader at https://c200.luddy.indiana.edu
2. Please write the code for the problems in python language
3. The code should be readable with variables named meaningfully
4. Plagiarism is unacceptable and we have ways to find it, so do not do it
5. Don't change the function signature (name of the function and number and types of arguments) provided in this file.
6. Once you pass all the tests on the auto grader, show your work to the teaching assistant

Problem

Question

Dani, a wealthy farmer, annually provides food for the impoverished during harvest. However, she notices bias among her servers in distributing rice. To rectify this, Dani intervenes, aiming for equitable rice distribution. She devises a method: each operation involves either taking or giving 1 kg of rice to individuals in a line. The goal is to ensure every person receives an equal share. Thus, the function IdYaKnYiK(people) is tasked with determining the minimum moves required to achieve this balance. By redistributing rice in this manner, Dani demonstrates her commitment to fairness and alleviating hunger among the less fortunate, reflecting her ethos as a just and compassionate farmer.

Test cases

Input: people = [1,3,5]
Output:4
Explanation: Take 2kg rice from person at index 2 and give 2 kg of rice to person at index 2.

Input: parts = [1]
Output: 0
Explanation: We only have 1 person and hence it is fair.

Function signature

```
def IdYaKnYiK(people:list[int])->int:
    return minCost
```

Constraints

1.) Solve the problem in O(N*log(N)) where N is number of people.
2.) $0 \leq |people| \leq 200000$.