Question 1:

If the element is even, divide it by 2.
If the element is odd, multiply it by 3 and add 1.
Repeat this transformation for each element in the list until all elements in the list are the same.

Question 2:

Given a list of integers, transform the list such that for each element:
If the element is even, divide it by 2.
If the element is odd, multiply it by 3 and add 1.
Repeat this transformation for each element in the list until all elements in the list are the same.

Question 3:

Problem: Nested Dictionary Inventory Management

You are given a dictionary representing an inventory system for a store. Each item in the dictionary has a sub-dictionary containing stock information and prices across different store branches.

Write a function consolidate_inventory that:

1. Consolidates the total stock for each item across all branches.

2. Calculates the average price of each item based on its availability in branches.

3. Returns a dictionary where each item is mapped to a new dictionary containing the total_stock and the average_price.

Specifications:

1. If an item is out of stock in a branch, it won't affect the average price calculation.

2. Only include items that have stock across at least one branch.

3. If no branches have stock for an item, exclude it from the final dictionary.

```
inventory = {
"apple": {
"branch_1": {"stock": 30, "price": 1.20},
"branch_2": {"stock": 0, "price": 1.25},
"branch_3": {"stock": 20, "price": 1.15},
},
"banana": {
"branch_1": {"stock": 15, "price": 0.50},
"branch_2": {"stock": 10, "price": 0.55},
"branch_3": {"stock": 0, "price": 0.52},
},
"orange": {
"branch_1": {"stock": 0, "price": 0.80},
"branch_2": {"stock": 0, "price": 0.85},
```

"branch_3": {"stock": 0, "price": 0.78},
},
}

Expected output

{
"apple": {
"total_stock": 50,
"average_price": 1.18
},
"banana": {
"total_stock": 25,
"average_price": 0.525
}
}