Problem 8

Let's assume equivalent cards will have same account number

A ← list of cards with account numbers

```
Def equivalence(A)
    IF len(A) == 0
        Return -1
    IF len(A) == 1
        Return A[0]
    IF len(A) == 2 and A[0] == A[1]
        Return A[0]
    ELIF len(A) == 2 and A[0] != A[1]
        Return -1

    n_half = floor{len(A)/2}
    A1 = equivalence(A[0,1,2….n_half]):      // first half of the list
    A2 = equivalence(A[n_half+1, ….n]):          // second half of list

    IF A1 == A2:
        Return A1
    count_A1 = 0
    count_A2 = 0
    FOR i in range(len(A)):
        IF A[i] == A1:
            count_A1 ++
        ELIF A[i] == A2:
            count_A2 ++
    IF count_A1 > n_half + 1:
        Return A1
    ELIF count_A2 > n_half + 1:
```

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        Return A2
ELSE:
        Return -1
```