Stability

Assume that the array A is unsorted and contains person-objects, each of which has a age-field. Furthermore, assume that the person-objects at A[3] and A[42] are both 22 years of age.

The array A is sorted by age. After sorting, you know that:

- The person-object that was at A[3] before sorting, is now at A[9]
- The person-object that was at A[42] before sorting, is now at A[7]

(a) Was the sorting stable?

(b) What is the age of the person-object at A[8] after sorting?

(c) If you know that no person in A is older than 100 years of age, what sorting algorithm should you apply, with regards to run-time efficiency?