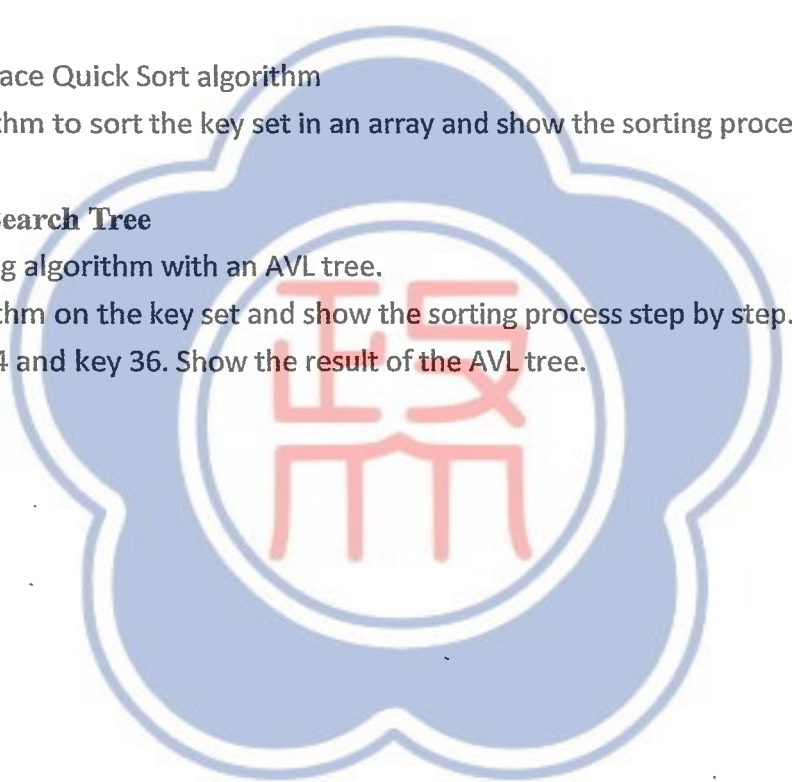


考 試 科 目	資料結構	系 所 別	資管系/科技組	考 試 時 間	2 月 12 日(三) 第 4 節
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Consider the following key set: 31, 82, 14, 3, 12, 6, 7, 95, 10, 162, 214, 36, 9, 2, 138, 78, 22, 56

- 一、  
**Sorting with a Priority Queue**
1. (10%) Define an algorithm that sorts the key set with a heap (as a priority queue).
  2. (20%) Run the algorithm on the key set and show the sorting process step by step.
- 二、  
**Sorting with an Array**
1. (10%) Define an in-Place Quick Sort algorithm
  2. (20%) Run the algorithm to sort the key set in an array and show the sorting process step by step.
- 三、  
**Sorting with a Binary Search Tree**
1. (10%) Define a sorting algorithm with an AVL tree.
  2. (20%) Run the algorithm on the key set and show the sorting process step by step.
  3. (10%) Remove key 14 and key 36. Show the result of the AVL tree.



備 註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。
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