2. A list of eleven numbers is to be sorted into descending order.

After one pass, the quick sort algorithm produces the following list

17 33 14 25 23 28 21 13 9 6 10

(a) State, with a reason, which number was used as a pivot for the first pass.

(1)

(b) Starting at the left-hand end of the above list, obtain the fully sorted list using a bubble sort. You need to write down only the list that results at the end of each pass.

(3)

(c) Apply the first-fit decreasing bin packing algorithm to the fully sorted list to pack the numbers into bins of size 85

(2)

(Total for Question 2 is 6 marks)