Week 4

Ans1. Algorithm

1. Find the middle index of the array.
   middle = 1 + (last - first) / 2
2. Divide the array from the middle.
3. Call merge sort for the first half the array.
   merge_sort (array, first, middle)
4. Call merge sort for the second half of the array.
   merge_sort (array, middle + 1, last)
5. Merge the two sorted halves into a single sorted array.

Ans-2 Algorithm

1. Choose the highest index value has pivot.
2. Take two variables to point left & right of the list excluding pivot.
3. Left points to the low index.
4. Right points to the high.
5. While value at left is less than the pivot move right
6. While value at right is greater than pivot move left.
7. If both step 5 & step6 does not match swap left & right.
8. If left ≥ right, the point where the met the new pivot.

Ans. 3. Algorithm

1. Find the middle index of the array.
2. middle = 1 + (last - first) / 2.
3. Divide the array from the middle.
4. Call merge sort for the first half of the array.
5. Merge_sort (array, middle + 1, last)
6. Merge the two sorted halves into a single sorted array.
7. Return the element at index k < - 1 in the sorted array.