Exercise 1:
Guess to reduce the additional storage needed by mergesort.

Exercise 2:
Work out the analysis of $QS(n)$. Show that the obtained upper bound is tight.

Exercise 3:
Show that the result of the analysis of randomized quicksort would not be worse if the assumption that $n$ distinct numbers have to be sorted does not hold.

Exercise 4:
Prove Lemma 4.4 of the lecture.