**Typical issues and mistakes of midterm exam**

1

The most common mistake was that many students didn’t set b equal to n which would lead to answers which are not efficient.

2

Some students apparently didn’t know the concept of loop invariant and they just tried to explain what is done in each loop of the sorting problem without mentioning the loop invariant.

3   
Some student didn’t know how to rotate the red black tree in the second part.

4   
My guess is that many students just didn’t spend much time on this question since it looks hard when one is reading the description under the pressure of exam.

5

Most of the students had no problem. Some didn’t have enough time for writing the proof of their answer.

6

Same as question 4. However, there was a very common mistake in which students tried to use the greedy algorithm which tried to connect each black dot to the nearest white dot which is not correct.