Algorithmics	Student information	Date	Number of session
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Activity 1. Basic recursive models

- Subtraction 1: there is one recursive call, so a = 1, therefore complexity is O(n^(k+1)), where k = 0, so O(n).
- Subtraction 2: as with the previous case, a = 1, however k = 1 in this case, making the complexity O(n^2).
- Subtraction 3: now, a = 2, bigger than 1, so it follows the (a^(n/b)) pattern, where b = 1, so the complexity is O(2^(n)).
- Subtraction 4: target complexity is O(3^(n/2)). For this, a has to be bigger than 1, and b has to be 2. For this I made 3 recursive call where I subtract 2.

- Division1: a<b^k, being a = 1, b = 3, k = 1, therefore the complexity is O(n).
- Division 2: a = b^k, where a = 2, b = 2, and k = 1, making the complexity O(n*logn).
- Division 3: a > b^k, because a = 2 and b = 2, but k = 1, so 2>(2^1 = 1), the complexity is then O(n^log2).
- Division 4: target complexity is O(n^2) having a number of subproblems (a) of 4. The condition for the O(n^k) pattern is a<b^k. To fulfill that 4<b^k, I used a complexity of O(n^2) so that k = 2, and made the recursive call divide by 3.

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