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

1- Explanation for each of the given classes

a. Division 1

We got that a = 1, b = 1 and k = 1 so the time complexity will be O(n) and the waste of stack is O(logn)

b. Division 2

We got that a = 2, b = 2 and k = 1 so the time complexity will be O(nlogn) and the waste of stack is O(logn)

c. Division 3

We got that a = 2, b = 2 and k = 0 so the time complexity will be O(n) and the waste of stack is O(logn)

d. Subtraction 1

We got that a = 1, b = 1 and k = 0 so the time complexity will be O(n) and the waste of stack is O(n)

e. Subtraction 2

We got that a = 1, b = 1 and k = 1 so the time complexity will be $O(n^2)$ and the waste of stack is O(n)

f. Subtraction 3

We got that a = 2, b = 1 and k = 0 so the time complexity will be $O(2^n)$ and the waste of stack is O(n)

2- Explanation for 2 new classes

a. Division 4

We got that a = 4, b = 3 and k = 2 so the time complexity will be $O(n^2)$ and the waste of stack is O(logn)

b. Subtraction 4

We got that a = 3, b = 2 and k = 0 so the time complexity will be $O(3^{n/2})$ and the waste of stack is O(logn)