Activity 1. Basic recursive models

Class: Division 1

The complexity of this algorithm is obtained taking the table that says: Interfaz de usuario gráfica

Descripción generada automáticamente con confianza baja

Therefore, the complexity of this algorithm would be O(n^k) as 1 < 3 that is O(n).

Class: Division 2

The complexity of this algorithm is obtained taking the table that says: Interfaz de usuario gráfica

Descripción generada automáticamente con confianza baja

Therefore, the complexity of this algorithm would be O(n^k\*log n) as 2=2 that is O(n log n).

Class: Division 3

The complexity of this algorithm is obtained taking the table that says: Interfaz de usuario gráfica

Descripción generada automáticamente con confianza baja

Therefore, the complexity of this algorithm would be O(n^ logb n) as 2>1 that is O(n^log n)

Class: Subtraction 1

The different variables of D&C are:

A = 1 B = 1 K = 0

Taking the table:

Interfaz de usuario gráfica, Texto, Aplicación

Descripción generada automáticamente

As A = 1 we can agree that the complexity is O(n)

Class: Subtraction 2

The different variables of D&C are:

A = 1 B = 1 K = 1

Taking the table:

Interfaz de usuario gráfica, Texto, Aplicación

Descripción generada automáticamente

As A = 1 we can agree that the complexity is O(n^2)

Class: Subtraction 3

The different variables of D&C are:

A = 2 B = 1 K = 0

Taking the table:

Interfaz de usuario gráfica, Texto, Aplicación

Descripción generada automáticamente

As A > 1 we can agree that the complexity is O(2^n)

Class: Division 4

The different variables of D&C are:

A = 4 B = 2 K = 1

Taking the table:

Interfaz de usuario gráfica

Descripción generada automáticamente con confianza baja

As A > 2^1 we can agree that the complexity is O(n^log 2 (4)) == O(n^2)

Class: Subtraction 4

The different variables of D&C are:

A = 3 B = 2 K = 0

Taking the table:

Interfaz de usuario gráfica, Texto, Aplicación

Descripción generada automáticamente

As A > 1 we can agree that the complexity is O(3^(n/2))