

Laboratorio Nro. 2 BIG O NOTATION

Andrés Rodríguez Echeverri
Universidad Eafit
Medellín, Colombia
arodriguee@eafit.edu.co

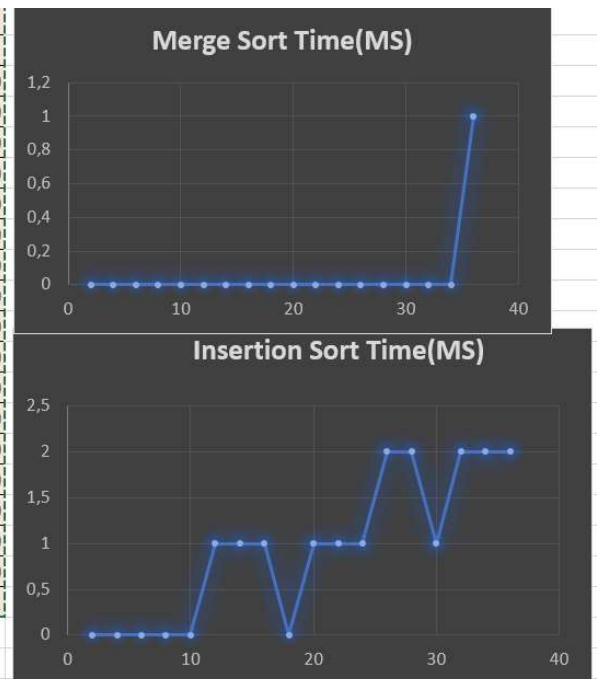
Esteban Palacio
Universidad Eafit
Medellín, Colombia
epalacior@eafit.edu.co

3) Simulacro de preguntas de sustentación de Proyectos

3.1 – 3.2

Insertion Sort	
Item	Time(MS)
2	0
4	0
6	0
8	0
10	0
12	1
14	1
16	1
18	0
20	1
22	1
24	1
26	2
28	2
30	1
32	2
34	2
36	2

Merge Sort	
Item	Time(MS)
2	0
4	0
6	0
8	0
10	0
12	0
14	0
16	0
18	0
20	0
22	0
24	0
26	0
28	0
30	0
32	0
34	0
36	1



3.3

Taking into account the graphs we can see that MergeSort is more eficiente tan InsertionSort because in more tan one case the time is milliseconds and is "0" and in the other hand insertion sort is more about the amount of items.

3.4 InsertionSort inst the appropriated one for a videogame because of the high amount of elements. Its algorithm isnt eficiente when we talk about ordering elements.

3.5

InsertionSort its faster than merge when the size of the data isnt a high number of elements.

PhD. Mauricio Toro Bermúdez

Docente | Escuela de Ingeniería | Informática y Sistemas
Correo: mtorobe@eafit.edu.co | Oficina: Bloque 19 – 627
Tel: (+57) (4) 261 95 00 Ext. 9473

ESTRUCTURA DE DATOS 1
Código ST0245

3.6

MaxSpan: It Works with 2 loops that are divided with diferente objectives. The first one goes from the beginning to the end and the other one does the opposite thing. The idea is that whenever it founds a position that contains the same as the first position it takes the lenght and compares it using Math.max. After it it has saved the new and the largest. When it finishes, the returning statement Will be the biggest span.

3.7**CODINGBAT 1**

Sum13: $T(n)=n+k$

Countevens: $T(n) = n+k$

Lucky 13: $T(n)=n+k$

bigDiff: $T(n) = n+k$

sum67: $T(n) = n+k$

CODINGBAT 2

Canbalance: $T(n)=n(m+n)$

Fix34: $2n^2+2nk$

MaxSpan: $T(n)=n^2+nk$

3.8

K constant

N codition that changes every time a recursive cal lis made.

M same as "N"

4) Simulacro de Parcial

4.1 C

4.2 B

4.3 B

4.4 A

4.5 D

4.6 D

4.9 D

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