ESTRUCTURA DE DATOS 1
Código ST0245

Laboratory practice No. 2: Complexity and sort

Julian Rojas Gallego
Universidad Eafit
Medellín, Colombia
jrojasg1@eafit.edu.co

3) Practice for final project defense presentation

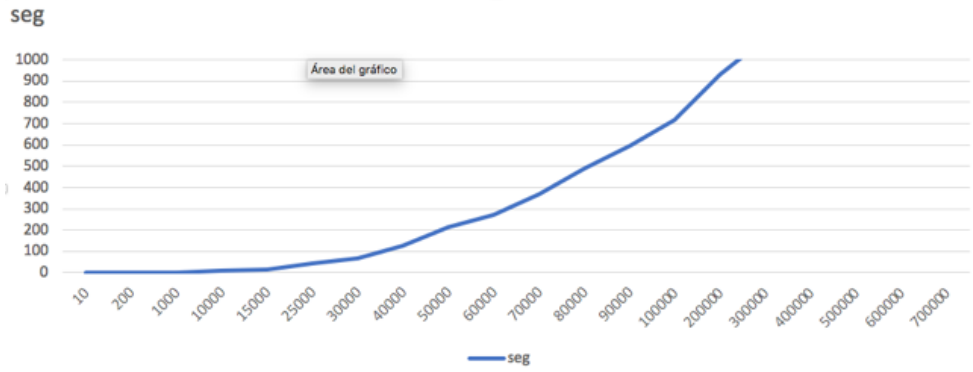
3.1insertion_sort

Datos	10	200	1000	10000	15000	25000	30000	40000	50000	60000	70000	80000	90000	100000	200000	300000	400000	500000	600000	700000
Tiempo	0	0	0	8	16	44	68	124	214	272	366	489	597	719	930	1100	1240	1410	1620	1920

Merge_sort

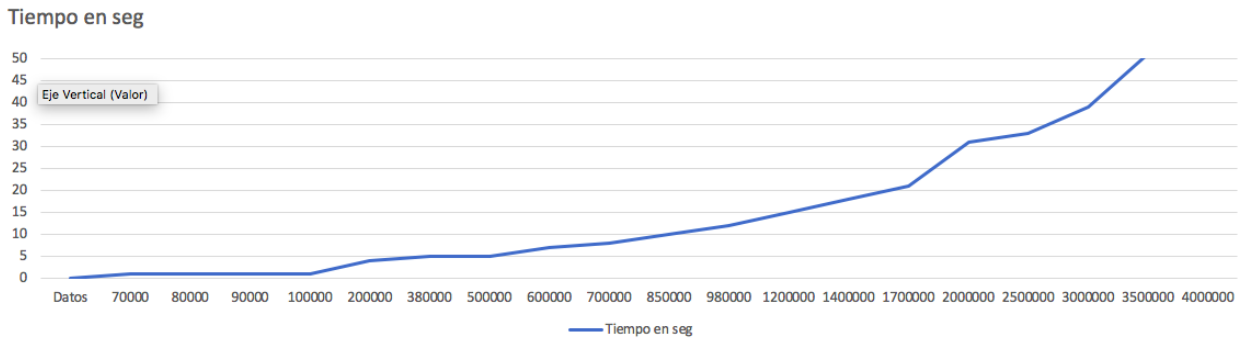
Datos	70000	80000	90000	100000	200000	380000	500000	600000	700000	850000	980000	1200000	1400000	1700000	2000000	2500000	3000000	3500000	4000000	4500000
Tiempo en s	0	1	1	1	1	4	5	5	7	8	10	12	15	18	21	31	33	39	51	60

3.2. Insertion_sort



Merge_sort

PhD. Mauricio Toro Bermúdez
Professor | School of Engineering | Informatics and Systems
Email: mtorobe@eafit.edu.co | Office: Building 19 – 627
Phone: (+57) (4) 261 95 00 Ext. 9473



3.3 Merge sort is most effective than insert sort, because process most data in low time. The graph of insert sort show the time hasta 1000 seconds, while the graph of merge sort is hasta 50 seconds and most quantity of data.

3.4 Not, as explained in the previous point.
3.5
3.6
3.7

1. has22= O(n)
2. lucky13= T(n)= c1+c2n+c3+c4 = O(c2n)
3. more14= T(n) = c1+c2n+c3 = c2!=0, n = (-c1 - c3)/c2 = notation O : O(c2n)
4. sum13 = T(n) = c1+c2n+c3 + c4= c2!=0, n = (-c1 - c3 - c4)/c2 notation O : O(c2n)
5. more14= T(n) = T(n) = c1+c2n+c3 = c2!=0, n = (-c1 - c3)/c2 = notation O : O(c2n)

3.8 N = No. of elements the array.

4) Practice for midterms

4.1 *a*
4.2 *b*
4.3 *d*
4.4 *b*
4.5 *c,si.*
4.6 100 segundos.
4.7 Todas las anteriores.
4.9 c
4.11 c
4.12 b
4.13 c
4.14 a

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