

## Laboratory practice No. 4: HashTables and Trees

**Juliana Restrepo Tobar**  
Universidad Eafit  
Medellín, Colombia  
jrestrepot@eafit.edu.co

**Andrea Carvajal Maldonado**  
Universidad Eafit  
Medellín, Colombia  
acarvajalm@eafit.edu.co

**David Vergara Patiño**  
Universidad Eafit  
Medellín, Colombia  
dvergarap@eafit.edu.co

- 1.1)** Grimaldos, A (2019) lab04 (Version 1.0) [Source code]  
<https://github.com/agrimaldoe/ST0245032/blob/master/laboratorios/lab04/codigo/code.y>

### 3) Practice for final project defense presentation

- 3.1** N-ary tree
- 3.2** Complexity  $O(n^2)$
- 3.4** Complexity  $O(n^2)$
- 3.5** The variable  $n$  represents the number of nodes in the tree

### 4) Practice for midterms

- 4.1** a)  $b$   
b)  $d$
- 4.2**  $c$
- 4.3** 3: suma==0  
5: suma==a.value  
7: a.izq, suma-a.value  
8: a.der, suma-a.value
- 4.4** 1.c  
2. a  
3.d  
4. a
- 4.5** 04: toInsert==p.value  
06: toInsert>p.value
- 4.6** d  
2. 04: return 0;  
06:==0
- 4.7** 1.a  
2.c

**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



**ESTRUCTURA DE DATOS 1**  
**Código ST0245**

- 3. d
- 4.8 b**
- 4.9 a**
- 4.10** No
- 4.11** 1. b  
2. a  
3. No
- 4.12** 1. i  
2. a  
3. a
- 4.13** 1. raiz.id  
2. b