**Universidad ICESI**

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**Análisis de complejidad temporal de algoritmos de ordenamiento.**

**Insertion sort:**

public static void insertionSortImperative(int[] input) {

for (int i = 1; i < input.length; i++) {

int key = input[i];

int j = i - 1;

while (j >= 0 && input[j] > key) {

input[j + 1] = input[j];

j = j - 1;

}

input[j + 1] = key;

}

}

|  |  |
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| Instrucción | Veces que se repite |
| 1. for (int i = 1; i < input.length; i++) { | n |
| 1. int key = input[i]; | n-1 |
| 1. int j = i - 1; | n-1 |
| 1. while (j >= 0 && input[j] > key) { | (n\*(n-1))/2 |
| 1. input[j + 1] = input[j]; | ((n\*(n-1))/2)-1 |
| 1. j = j - 1; | ((n\*(n-1))/2)-1 |
| 1. input[j + 1] = key; | n-1 |
| Total: | n² |