**Notes DSA**

* Big O notation -> **asymptotic upper bound**

**O(g(n)) = {f(n) | 0 <= f(n) <= c \* g(n)}** and **lim T(n)/g(n) = 0**

* Omega -> **asymptotic lower bound**
* **Theta -> asymptotic tight bound**

For all values of n, c1\*g(n) <= f(n) <= c2\*g(n) => the limit is 1!

* For **total complexity** we take the **worst case** (n4), but if the *best case has a lower value*, we use the **O notation**. Remember, O(n4), means that the complexity is at most (n4), but there is a best case, when it is less (without the best case, we would have Θ(n4).



