

Note

`datatype variableName;`

`char studentName[40]; string studentName;`

Data Structure : ways to store and organize data effectively and efficiently

- There are two types of data structure:
 1. Linear Data Structure : Store data sequentially
 2. Non-Linear Data Structure :

Lv1: If it works , don't touch it

Algorithm : is a step-by-step process of solving a specific coding problem

Final Project :

- vector , arrays -> Searching algorithm , Sort algorithm

Why do we need to understand and analyze algorithm ? Because of constraints or resources Which case , we should use which algorithm

- Some analogy Sacrifice simplicity for security Complexity for more security

Assymtotic Notation

There are different types of BIG O notation

- $O(1)$
- $O(n)$
- $O(\log n)$
- $O(n \log n)$
- $O(n^2)$
- $O(n!)$

$$5! = 1 * 2 * 3 * 4 * 5$$