Data Structures & Programming Methodology

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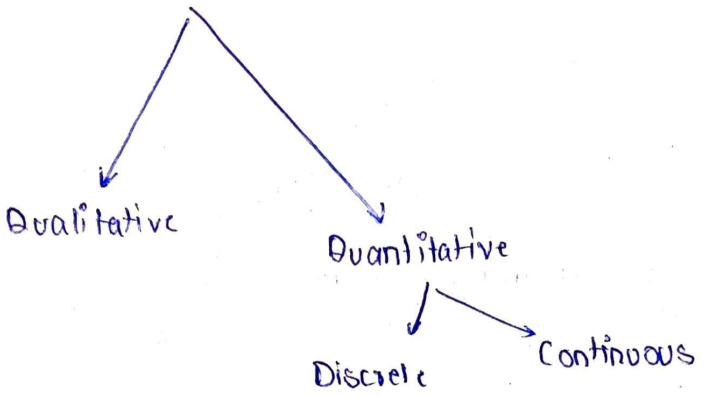
- Data can be defined as a collection of values or set of values. When we process the data and add meaning to it, it becomes information. e.g. 20UCS119 is data
  Enrollment no. 20UCS119 is information.
- Data can be classified as :



But, why do we need to do this? Because it provides a mental mapping for the data.

Need of Data Structures :-

* Data Structures organize data ⟹ more efficient programs
* Thus, Data Structure is an efficient way of organizing data so that it can be used effectively.
- Any organization of data should be ableed to be modified, searched or processed in any order.

Costs / Benefits :-

Data Structure requires a certain amount of :

- space, for each data item it stores.
- time, to perform a single basic operation
- programming effort

Selecting a Data Structure:

1. Analyze problem to determine the resource constraints a solution must meet.
2. Determine the basic operations that must be supported. Quantify resource constraint for each problem.
3. Select the data structure that best meets these requirements

Note: All queries and Notes will be managed through Piazza. All meeting will be done by Microsoft Teams.. Test are going to be critical.

1st 8 Classes, Only C programming. (1 Month)