Data Structures & Algorithms

What is Data?

1

Data are the raw facts, unorganized facts that need to be processed. Data can be something simple and seemingly random and useless until it is organized.

What is Information?

2

When data is processed, organized, structured or presented in a given context so as to make it useful, it is called information.

Difference between Data & Information

3

BASIS FOR COMPARISON	DATA	INFORMATION
Meaning	Data means raw facts gathered about someone or something, which is bare and random.	Facts, concerning a particular event or subject, which are refined by processing is called information.
What is it?	It is just text and numbers.	It is refined data.
Based on	Records and Observations	Analysis
Form	Unorganized	Organized
Useful	May or may not be useful.	Always
Specific	No	Yes
Dependency	Does not depend on information.	Without data, information cannot be processed.

Algorithm, Program & Data Structure?

Algorithm Outline, the essence of a computational procedure, step by step instructions

Program An Implementation of Algorithm in some programming language

Data Structure Organization of data needed to solve the problem

Proper organization of Data to easily handle for specific task in efficient way

Algorithm V/s Pseudocode

Algorithm	Pseudocode
Systematic logical approach which is a well-defined, step-by-step procedure that allows a computer to solve a problem.	It is one of the methods which can be used to represent an algorithm for a program.
Algorithms can be expressed using natural language, flowcharts, etc.	Pseudocode allows you to include several control structures such as While, If-then-else, Repeat-until, for and case, which is present in many high-level languages.