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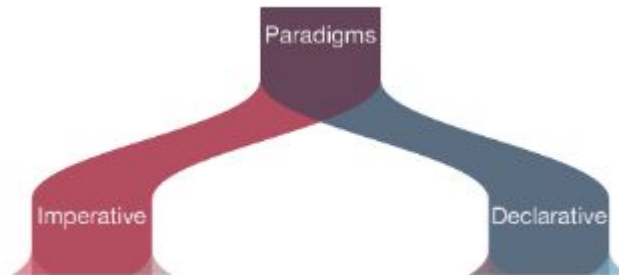


# PROGRAMMING IN JAVA



# What is Programming Language?

- ❖ A programming language is a notation designed to connect instructions to a machine or a computer.
- ❖ Programming languages are mainly used to control the performance of a machine or to express algorithms.
- ❖ The program can be divided into two forms such as syntax and semantics.



## Types of Programming Languages:

1. Procedural Programming Language
2. Functional Programming Language
3. Object-oriented Programming Language
4. Scripting Programming Language
5. Logic Programming Language



## Procedural Programming Language:

- ❖ The procedural programming language is used to execute a sequence of statements which lead to a result.
- ❖ Typically, this type of programming language uses multiple variables, heavy loops and other elements, which separates them from functional programming languages.
- ❖ Functions of procedural language may control variables, other than function's value returns.
- ❖ For example, printing out information.



## Functional Programming Language:

- ❖ Functional programming language typically uses stored data, frequently avoiding loops in favor of recursive functions.
- ❖ The functional programming's primary focus is on the return values of functions, and side effects and different suggests that storing state are powerfully discouraged.
- ❖ For example, in an exceedingly pure useful language, if a function is termed, it's expected that the function not modify or perform any o/p.
- ❖ It may, however, build algorithmic calls and alter the parameters of these calls.



# Functional Programming Language:

## Advantages :

- ❖ Its relative simplicity, and ease of implementation of compilers and interpreters
- ❖ The ability to re-use the same code at different places in the program without copying it.
- ❖ An easier way to keep track of program flow.
- ❖ The ability to be strongly modular or structured.
- ❖ Needs only less memory.





## Functional Programming Language:

### Disadvantages :

- ❖ Data is exposed to whole program, so no security for data.
- ❖ Difficult to relate with real world objects.
- ❖ Difficult to create new data types reduces extensibility.
- ❖ Importance is given to the operation on data rather than the data.



## Object Oriented Programming Language:

- ❖ This programming language views the world as a group of objects that internally having data and externally having accessing parts of that data.
- ❖ One of the main principle of object oriented programming language is encapsulation which is everything of an object must be inside of the object.
- ❖ This language also emphasizes reusability through inheritance.
- ❖ The capacity to spread current implementations without having to change a great deal of code by using polymorphism.



## Scripting Programming Language:

- ❖ These programming languages are often procedural and may comprise of object-oriented language elements
- ❖ They fall into their own category as they are normally not full-fledged programming languages with support for development of large systems.
- ❖ For example, they may not have compile-time type checking.
- ❖ Usually, these languages require tiny syntax to get started.



## Logic Programming Language:

- ❖ These types of languages let programmers make declarative statements and then allow the machine to reason about the consequences of those statements.
- ❖ In a sense, this language doesn't tell the computer how to do something, but employs restrictions on what it must consider doing.



THANK YOU

