Programming Paradigms in the design of effective solutions

In this essay I will explain about two paradigms of programming, these are the functional paradigm and the logical paradigm.

These two paradigms are types of programming paradigms that are contained in the declarative programming paradigm.

Functional programming in addition to having the declarative style in turn promotes referential transparency, pure functions and changes in states through the mutation of variables.

It is recommended to program using this paradigm when our objectives are, maintainability, the ability to understand code and a low error rate.

On the other hand, logic programming revolves around the concept of predicate, or relationship between elements.

Most logical programming languages ​​are based on first order logical theory, although they also incorporate some higher order behavior. In this sense, functional languages ​​stand out, since they are based on the lambda calculus, which is the only logical theory of superior order that is demonstrably computable, this is what is known up to now.

The Logical Programming also studies the use of logic for the approach of problems and the control over the rules of inference to reach the automatic solution.

In PROLOG we can highlight characteristics of the predicate logic these are: Uncertainty management, monotonic reasoning.

Monotonic Reasoning.- The logic of predicates for what is a formalism of monotonic reasoning, is not good for certain domains of the real world, in which truths can change with the passage of time. The PROLOG improves this weakness, giving it a mechanism to extract the facts from the database. For example, in TURBO PROLOG you have the retractall clause.

Uncertainty management.- There is a great disadvantage of predicate logic and that it only has two levels of truth: true and false. This is because the deduction always guarantees that the inference is absolutely true. However, in real life, not everything is black and white. However, PROLOG has partially eliminated this disadvantage, allowing the inclusion of certainty factors.