A programming paradigm is an approach to solving a problem using a specific programming language. In other words, it is a methodology for problem-solving using the tools and techniques available to us, following a particular approach. They are mainly 2 major 1categories.

1.IMPERATIVE PARADIGM: The languages in this category state the order in which operations occur, gives explicit instructions to a computer on how to execute a task.

i.Procedural Paradigm:

It is a type of imperative programming where a programming is coded using one or more functions or procedures. Procedural programming is derived from structured programming based on the concept of procedures, also called subroutines, routines, and functions.

*ii.Object-Oriented Paradigm:*

This is based on the object concept. These objects can consist of data and code rather than functions and logic. Here data is in field format and code I procedure form. These procedures are attached to objects, allowing easier access and data field modification*.*

**2.DECLARATIVE PARADIGM:** The languages in this category programs specify the required results, not the way to achieve them.

*iii.Functional Paradigm:* It is a paradigm where programs are coded by applying and composing functions. Here the computation is treated as a mathematical function evaluation, functions can be assigned to variables, returned from other functions and passed as arguments.

*iv.Logic Paradigm: The Logic Paradigm uses a set of rules and facts to describe constraints and relations wwithin a problem domain. Rules are written as logical clauses and follows a declarative approach.*

### *v. Event-driven Paradigm:* This paradigm focuses on designing software programs that are based on events. In the event-driven paradigm, asynchronous actions’ emitters and listeners are used. Here the entities communicate indirectly with each other by sending messages through an intermediary. Instead of following a sequential or linear execution pattern, the control flow of the event-driven paradigm is determined by events and event handlers.