F# - OVERVIEW

F# is a functional programming language. To understand F# constructs, you need to read a couple of lines about the programming paradigm named **Functional Programming**.

Functional programming treats computer programs as mathematical functions. In functional programming, the focus would be on constants and functions, instead of variables and states. Because functions and constants are things that don't change.

In functional programming, you will write modular programs, i.e., the programs would consist of functions that will take other functions as input.

Programs written in functional programming language tend to be concise.

About F#

Following are the basic information about F# −

- It was developed in 2005 at Microsoft Research.
- It is a part of Microsoft's family of .Net language.
- It is a functional programming language.
- It is based on the functional programming language OCaml.

Features of F#

- It is .Net implementation of OCaml.
- It compiles .Net CLI *CommonLanguageInterface* byte code or MSIL *MicrosoftIntermediateLanguage* that runs on CLR *CommonLanguageRuntime*.
- It provides type inference.
- It provides rich pattern matching constructs.
- It has interactive scripting and debugging capabilities.
- It allows writing higher order functions.
- It provides well developed object model.

Use of F#

F# is normally used in the following areas −

- Making scientific model
- Mathematical problem solving
- Artificial intelligence research work
- Financial modelling
- Graphic design
- CPU design
- Compiler programming
- Telecommunications

It is also used in CRUD apps, web pages, GUI games and other general purpose programs.