C++

OOPS LANGUAGE-OBJECT ORIENTED PROGRAMING LANGUAGE

INTRODUCTION TO OOPS

- OOP stands for Object-Oriented Programming.
- It is a programming paradigm based on the concept of objects.
- Each object contains data and functions to manipulate that data.
- OOP helps in structuring complex software in a manageable way.

About Object-Oriented Programming

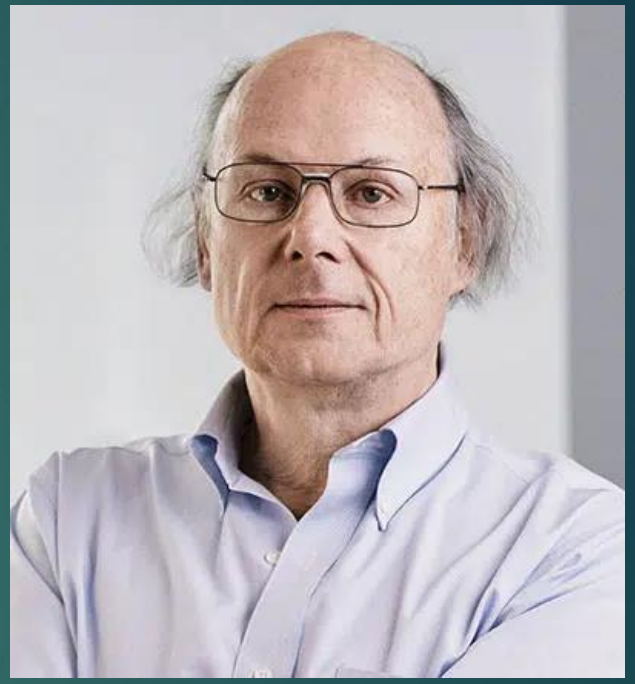
- OOP allows developers to design modular programs and reusable code.
- It focuses on data and the procedures that operate on the data.
- Key characteristics:
- - Organizes software design around data (objects), rather than functions and logic.
- - Provides a clear structure for programs.

History of OOP

- OOP concepts date back to the 1960s with the creation of Simula (first OOP language).
- C++ was developed by Bjarne Stroustrup in 1979 as an extension of C with object-oriented features.
- Other major OOP languages: Java, Python, Ruby, C#, etc.

HISTORY OF C++

- BJARNE STROUSTRUP
- STARTED IN 1978 TO 1979
- AT & T'S BELL LABORATORIES
- C WITH CLASSES.
- 1983 FROM THEN KNOW AS C++



COMPARISION BETWEEN C AND C++

- C++ IS SUPER SET OF C LANGAUGE
- C ++ PROGRAMS CAN USE EXISTING C SOFTWARE LIBRARIES
- C FOLLOWS TOP DOWN APPROCH OF PROGRAMING
- C++ FOLLOWS BOTTOM UP APPROCH OF PROGRAMING
- C ADOPTS PROCEDURE ORIENTED PROGRAMING
- C ++ ADOPTS OBJECT ORIENT PROGRAMING

OBJECT ORIENTED PROGRAMING

- OOPS is programing approach which revolves around the concept of "Object" .
- Any entity in the system that can be define as set of properties and set of operations performed using entity's property set, is know as Object.
- Entity means example.
- Ex. There is school then object is Rahul, Ramesh, Gita and Sita.

Core Concepts of OOP

The 5 major principles of OOP are:

- 1. Encapsulation
- 2. Data Hiding
- 3. Abstraction
- 4. Polymorphism
- 5. Inheritance

These principles enable developers to build secure, scalable, and reusable code.

IMPORTANCE OF OOP

- ✓ Modular structure for easy debugging and maintenance
- ✓ Reusability through inheritance
- ✓ Real-world modeling using objects
- ✓ Improved productivity via code reusability
- ✓ Scalability and security via encapsulation and data hiding

THANK YOU