2. What is OOP? List OOP concepts.

**Ans:-**

**What is OOP?**

**OOPS, or Object-oriented programming is an approach or a programming pattern where the programs are structured around objects rather than functions and logic. It makes the data partitioned into two memory areas, i.e., data and functions, and helps make the code flexible and modular.**

**Object-oriented programming mainly focuses on objects that are required to be manipulated. In OOPs, it can represent data as objects that have attributes and functions.**

**List OOP concepts**

 **Classes & Objects**

 **Abstraction**

 **Encapsulation**

 **Inheritance**

 **Polymorphism**

3. What is the difference between OOP and POP?

**Ans:-**

|  |  |  |
| --- | --- | --- |
| Type | **Procedure Oriented Programming** | **Object-Oriented Programming** |
| **Divided Into** | **In POP, the program is divided into small parts called functions.** | **In OOP, the program is divided into parts called objects.** |
| **Importance** | **In POP, functions and the order of operations to be performed take precedence over data.** | **Because it works in the actual world, data takes priority**  **over procedures and functions in OOP.** |
| **Approach** | **POP follows the Top-Down approach.** | **OOP follows the Bottom-Up approach.** |
| **Access Specifiers** | **POP does not have any access specifier.** | **OOP has access specifiers named Public, Private, Protected, etc.** |
| **Data Moving** | **In POP, Data can move freely from function to function in the system.** | **In OOP, objects can move and communicate with each other**  **through member functions.** |
| **Expansion** | **To add new data and functions in POP is not so easy.** | **OOP provides an easy way to add new data and functions.** |
| **Data Access** | **Most functions in POP employ global data for sharing, which can be accessed freely from one function to the next.** | **Data in OOP cannot simply flow from one function to function; it can be kept public or private, allowing us to regulate data access.** |
| **Data Hiding** | **POP does not have any proper way for hiding data so it is less secure.** | **OOP provides Data Hiding so provides more security.** |
| **Overloading** | **In POP, Overloading is not possible.** | **In OOP, Overloading is possible in the form of Operator Overloading and Function Overloading.** |
| **Examples** | **Examples of POP are C, VB, FORTRAN, Pascal.** | **Examples of OOP are C++, JAVA, VB.NET, C#.NET.** |