**Que-1: What is OOP? List OOP concepts.**

Ans: OOP stands for Object-Oriented Programming. [OOPs, or Object-oriented programming](https://www.simplilearn.com/tutorials/java-tutorial/oops-interview-questions) is an approach or a [programming](https://www.simplilearn.com/tutorials/c-tutorial/coding-vs-progrmming) 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.

There are some basic concepts that act as the building blocks of OOPs i.e.

**1. Class:** A class is a blueprint or template that defines the characteristics and behaviors of an object. It encapsulates data (attributes) and functions (methods) that operate on that data.

**2. Object:** An object is an instance of a class. It represents a specific entity and can have its own unique state and behaviour.

**3. Encapsulation:** Encapsulation is the principle of bundling data and methods within a class, hiding the internal details and providing a public interface for interacting with the object. It promotes data abstraction and information hiding.

**4. Inheritance:** Inheritance allows a class (child or derived class) to inherit properties and behaviors from another class (parent or base class). It facilitates code reuse, modularity, and the creation of hierarchical relationships between classes.

**5. Polymorphism:** Polymorphism allows objects of different classes to be treated as objects of a common base class. It enables the use of a single interface to represent multiple related classes. Polymorphism can be achieved through method overriding and method overloading.

**6. Abstraction:** Abstraction involves simplifying complex systems by representing essential features while hiding unnecessary details. It allows programmers to focus on high-level concepts and operations, without concerning themselves with the underlying implementation.

**7. Exception Handling:** Exception handling is a mechanism in object-oriented programming (OOP) that allows the handling of exceptional or error conditions that may occur during the execution of a program. It provides a structured approach to deal with runtime errors and allows programmers to gracefully handle exceptional situations, preventing program crashes and enabling error recovery.

**8.Template**: In object-oriented programming (OOP), a template refers to a construct or feature that allows the creation of generic classes or functions that can work with different data types. Templates provide a way to define reusable code components that can be customized to work with specific data types without duplicating the code.

**Que-2: What is the difference between OOP and POP?**

**Ans:**

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| **Sr No.** | **Key** | **OOP** | **POP** |
| **1** | Definition | OOP stands for Object Oriented Programming. | POP stands for Procedural Oriented Programming. |
| **2** | Approach | OOP follows bottom up approach. | POP follows top down approach. |
| **3** | Division | A program is divided to objects and their interactions. | A program is divided into function and they interacts. |
| **4** | Inheritance supported | Inheritance is supported. | Inheritance is not supported. |
| **5** | Access control | Access control is supported via access modifiers. | No access modifiers are supported. |
| **6** | Data Hiding | Encapsulation is used to hide data. | No data hiding present. Data is globally accessible. |
| **7** | Example | C++, Java | C, Pascal |