1.What is oop?

OOP stands for Object-Oriented Programming, which is a programming language that revolves around the concept of "objects."

1.1 list concepts of OOP?

* **Objects**: Represent real-world entities, containing data and behavior.
* **Classes**: Blueprint for creating objects, defining their structure and behavior.
* **Encapsulation**: Bundling data and methods together, hiding internal details from outside.
* **Inheritance**: Subclasses can inherit attributes and methods from superclasses, promoting code reuse.
* **Polymorphism**: Objects can take many forms, allowing flexibility in method implementation.
* **Abstraction**: Focuses on essential features, hides complex implementation details.
* **Association**: Relationship between objects, independent existence.

**3. OOP (Object-Oriented Programming):**

* Focuses on objects as the fundamental building blocks of programs.
* Encourages organizing code around objects, which encapsulate data and behavior.
* Promotes concepts like classes, inheritance, polymorphism, and encapsulation.
* Supports modularity, code reuse, and easier maintenance through encapsulation and inheritance.
* Well-suited for modeling real-world entities and complex systems.

**3.1 POP (Procedural Oriented Programming):**

* Focuses on procedures or functions as the fundamental building blocks of programs.
* Organizes code around functions or procedures that operate on data.
* Typically uses data structures and functions to manipulate data.
* Lacks built-in support for concepts like classes, inheritance, and polymorphism.
* Can lead to code duplication and lack of modularity in larger projects.
* Often used for small to medium-sized programs or scripts where simplicity and straightforwardness are prioritized.