1. **WAP to print “Hello World” using C++**

* #include <iostream>

using namespace std;

int main() {

cout << "Hello World!";

return 0;

}

1. **What is OOP? List OOP concepts.**

* OOP stands for Object-Oriented Programming. Procedural programming is about writing procedures or functions that perform operations on the data, while object-oriented programming is about creating objects that contain both data and functions.
* OOP concepts:

**1)Class**: A blueprint or template for creating objects. It defines the attributes (properties) and methods (functions) that the objects will have.

**2)Object**: An instance of a class, which represents a real-world entity or concept. Objects have state (attributes) and behavior (methods).

**3)Encapsulation:** The concept of bundling data (attributes) and the methods (functions) that operate on the data into a single unit called a class. It helps in controlling access to data and prevents unintended modification.

**4)Abstraction:** The process of simplifying complex reality by modeling classes based on the essential properties and behaviors. It hides the complex implementation details and focuses on what an object does rather than how it does it.

**5)Inheritance:** The mechanism by which a new class (subclass or derived class) can inherit properties and behaviors from an existing class (base class or superclass). It promotes code reuse and the creation of a hierarchical class structure.

**6)Polymorphism:** The ability of different classes to be treated as instances of the same base class through a common interface. Polymorphism allows objects of different classes to be used interchangeably, improving code flexibility and extensibility.

1. **What is the difference between OOP and POP?**

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

* Focuses on organizing code around objects, which represent real-world entities or concepts.
* Objects have data (attributes) and behaviors (methods).
* Encourages encapsulation, where data is hidden and accessed through methods.
* Supports concepts like inheritance (creating new classes from existing ones) and polymorphism (treating different objects similarly).

**2.POP (Procedural-Oriented Programming):**

* Organizes code around procedures or functions that perform tasks.
* Data and functions are often separate.
* Does not emphasize encapsulation; data can be accessed directly.
* Doesn't have built-in support for concepts like inheritance and polymorphism.
* In essence, OOP is about thinking in terms of objects and their interactions, while POP is about breaking tasks into procedures or functions. OOP is often used for complex, structured applications, while POP may be simpler and used for straightforward tasks.