Que 2 : What is OOP? List OOP concepts.

-OOP stands for Object Oriented Programming.

-Procedural Programming is about writing procedure or functions

that perform operations on the data, while object oriented programming

is about creating objects that contains both data and functions.

-Classes and Objects are two main aspects of OOP.

-Class is a template for objects and an object is an instance for class.

-There is 4 Concepts or we can say pillars of Object Oriented Programming.

(1) Abstraction : Abstraction is the most essential and important features of Object oriented programming in C++ .

- Abstraction means displaying only essential information and hiding the details .

-Abstraction refers to providing only essential information about the data to the

outside world, hiding the background details or implementation.

(2) Encapsulation : The meaning of Encapsulation is to make sure that "Sensitive" data is hidden from users.

-To achieve this, one must declare class variables/attributes as PRIVATE which

cannot be accessed from outside the class. If you want others to read or modify the

value of a private member, you can provide public get and set methods.

(3) Inheritance : In C++, It is Possible to inherit attributes and methods from one class to another.

Two Categories of Inheritance :

(1) Derived Class(Child) - The class that inherits from another class.

(2) Base Class(Parent) - The class being inherited from.

To inherit from a class, use the ":" symbol.

Two Types of Inheritance :

(1) Multilevel Inheritance - A class can also be derived from one class,

which is already derived from another class.

(2) Multiple Inheritance - A class can also be derived from more than one

base class, using a comma-separated list.

(4) Polymorphism : Polymorphism means "Many Forms", and it occurs when we have many classes that are related to each other by inheritance.

-Inheritance lets us use inherit attributes and methods from another class.

Polymorphism uses those methods to perform different tasks.This allows us to

perform a single action in different ways.

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Que 3 : What is the difference between the OOP and POP?

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| OOP(Object Oriented Programming) | POP(Procedure Oriented Programming) |
| It is Object Oriented Programming Language. | It is Structure Oriented Programming Language. |
| In OOP the program is divided into objects. | In POP the program is divided into functions. |
| Here the Execution method of the code will be Bottom-to-top approach. | Here the Execution method of the code will be Top-to-bottom approach. |
| Inheritance property is used in OOP. | Inheritance is not allowed in POP. |
| It uses Access Specifiers. | It doesn’t use access specifiers. |
| Encapsulation is used to hide the data. | There is no data hiding. |
| Concept of virtual function. | There is no virtual function. |
| Object functions are linked through message passing. | Parts of program are linked through parameter passing. |
| Adding new data and functions is easy. | Expanding new data and functions is not easy. |
| The existing code can be reused. | No code reusability. |
| Used for solving large problems. | Not suitable for solving large problems. |
| Example; C++, Java. | Example; C, Pascal. |