**C++ ASSIGNMENT**

1). what is OPP?

An OPP is Object oriented program. 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.

There are seven types of lists in OOP.

**1). Object**

**2). Class**

**3). Abstraction**

**4). Encapsulation**

**5). Polymorphism**

**6). Inheritance**

**7). Dynamic Binding**

1. Object:

An Object can be defined as an entity that has a state and behaviour.

Object is an instance of a class. Object is one type of data types. The function defined inside the class as above are called member function.

For an example:- A person, A dog, and many more.

Syntax:-

Class classname

{

Variabledeclarations; DataFunctions;

};

main()

{

classnameobjectname1, objectname2,

}

2). Class

Class can be defined as a blueprint of the object. It is basically a

collection of objects which act as building blocks. A class contains

data members (variables) and member functions. These members

functions are used to manipulate the data members inside the class.

For an example:- Car is class. Wheels and Bumper are data members.

Member functions are break, accelerator and gear.

3). Abstraction

Abstraction is hiding to complexity from users. It helps in displaying

without showing the details or the functionality to the user. It avoids

unnecessary information or irrelevant details and shows only that specific

part which the user wants to see.

4). Encapsulation

The wrapping up of data and functions together in a single unit is known

as encapsulation. It can be achieved by making the data members' scope

private and the member function’s scope public to access these data

members. Encapsulation makes the data non-accessible to the outside world.

5). Polymorphism

Polymorphism means many forms. It is the ability to take more than one

form. It is a feature that provides a function or an operator with more than

one definition. It can be implemented using function overloading, operator

overload, function overriding, virtual function.

6). Inheritance

Inheritance is the process in which two classes have an is-a relationship

among each other and objects of one class acquire properties and features

of the other class. The class which inherits the features is known as the child

class, and the class whose features it inherited is called the parent class.

For an example:-

Class Vehicle is the parent class, and Class Bus, Car, and Bike are child classes.

7). Dynamic Binding

Dynamic binding in C++ is a practice of connecting the function calls with

the unction definitions by avoiding the issues with static binding, which

occurred at build time. Because dynamic binding is flexible, it avoids the

drawbacks of static binding, which connected the function call and

definition at build time.

There are two types of dynamic binding

1). Static Binding

Static binding is referred to as early binding. static binding is faster than

dynamic binding because of all the information needed to call a function.

2). Dynamic Binding

Static binding is referred to as late binding. dynamic binding is slower

than dynamic binding because of all the information needed to call a

function call is not resolved until runtime.

**2).** What is the difference between OOP and POP?

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| --- | --- |
| OOP (Object Oriented Programming) | POP (Procedure Oriented Programming) |
| * It is a bottom –up approach | * It is a top -bottom approach |
| * The length of the programme is less compared to POP. | * The length of the programme is more compared to OOP. |
| * Data is used by a associated function within the class in OOP. | * Data use globally in POP. |
| * Objects can communicate with each other.   Example:- C++, JAVA, PYTHON,PHP. | * There is no Objects..   Example:- C,BASIC,COBOL,FORTRAN. |