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Top Technologies Assignment

Module- 4.1 (C++ Basics)

* What is OPP? List OOPS concepts:
* OOP: Object-Oriented Programming
* Object- Oriented Programming is a method to design program using Classes & Object.
* Concepts of OOP:
* There are some basic concepts to build to blocks of OOPs.

1. Classes & Objects

* Classes is a blueprint of the object. It is basically a collection of objects which act as building blocks. It contains data members & member functions.
* Object can be defined as entity that exist physically in the real world. It is a combination of data and programs.

1. Abstraction

* Abstraction helps in displaying the essential features 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.

1. Encapsulation

* It is defined as the wrapping up of the data & info in a single unit.
* Access specifier facilitate data hiding in C++ programs by restricting access to the class member functions & data members.
* There are three types of access specifiers in C++:

1. Private
2. Protected
3. Public
4. Inheritance

* Inheritance is a process in which one object acquire all the properties & behaviours of its parent object automatically.
* The class which inherits the members of another class is called derived class & the class whose members are inherited is called base class.
* There are five types of inheritance in C++:

1. Single inheritance
2. Multiple inheritance
3. Multilevel inheritance
4. Hierarchical inheritance
5. Hybrid inheritance
6. Polymorphism

* Polymorphism means many forms. It occurs when we have many classes that are related to each other by inheritance.
* There are two types of polymorphism in C++:

1. Compile time polymorphism
2. Function overloading
3. Operator overloading
4. Run time polymorphism
5. Virtual function