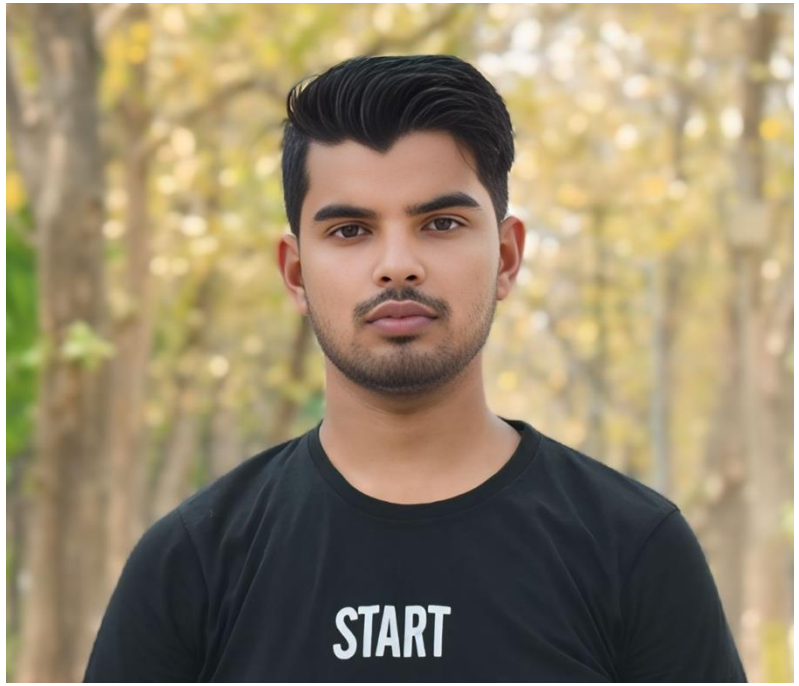
Inheritance



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Agenda

- Compile vs Run time binding
- Default Virtual Function
- Pure virtual Function
- Abstract class in c++
- Virtual Constructor
- Virtual Destructor.

Compile Time vs Run time binding

Default Virtual Function

- virtual is a Keyword.
- A virtual function is the member function in the base class that is redefined in a derived class.
- Create a virtual function use virtual keyword.
- A virtual function to perform runtime polymorphism.
- Virtual functions can have public, protected, or private access.

Syntax :- →

```
virtual returnType FunctionName()  {
        code;
        code;
}
```

Pure Virtual Function

- Pure virtual functions in C++ are virtual functions with no definition.
- We use the keyword "virtual" in C++ to declare a virtual function. They are assigned a value of zero when they are declared.
- It is used to create an abstract class.

Syntax

- virtual returnType FunctionName() = 0;

Abstract class in c++

- An abstract class is a class that must have at least one pure virtual function.
- Cannot create object of abstract class.
  - But why क्योंकि class incomplete है | इस class मैं pure virtual function हैं | जिसका code नहीं होता हैं इसलिए इसका object नहीं बना सकते हैं |
  - But create pointer of the class.

Virtual Constructor.

- **The creation of a virtual constructor is not possible because of the some reasons.**
  - ✓ **The compiler must know the type of object before creating it.**

Virtual Destructor.

- We are create virtual destructor is possible.
- When create virtual destructor in the class.
- We cannot delete a derived class object using a base class pointer that has a non-virtual destructor.
- To delete the derived class object using the base class pointer, the base class must contain a virtual destructor.

Syntax ➔

- VirtualKeyword ~ClassName(){}