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Can you explain to me how it's working 'Pure Virtual Function' in easy and detailed samples in c++ code.

Sure, I'd be happy to explain how pure virtual functions work in C++!

In C++, a pure virtual function is a virtual function that is declared in a base class, but has no implementation in that base class. Instead, it's up to the derived classes to provide an implementation of the pure virtual function. A class with one or more pure virtual functions is called an abstract class, and you can't create an object of an abstract class. Instead, you can create objects of derived classes that implement the pure virtual functions.

Here's an example of a simple abstract class that defines a pure virtual function:

cpp Copy code

```cpp
class Shape {
public:
    virtual double area() const = 0;  // pure virtual function
};
```

In this example, the `Shape` class has a pure virtual function called `area()`. This function has no implementation in the `Shape` class, so any class that derives from `Shape` must provide an implementation of `area()`.

Here's an example of a derived class that implements the `Shape` class:

cpp Copy code

```cpp
class Rectangle : public Shape {
public:
    Rectangle(double w, double h) : width(w), height(h) {}
    double area() const { return width * height; }
```

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