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Inheritance Introduction ■



by saikiran9194

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One of the important topics of Object Oriented Programming is Inheritance. Inheritance allows us to define a class in terms of another class, which allows us in the reusability of the code. Check out the code below:

```
class Triangle{
   public:
       void triangle(){
          cout<<"I am a triangle\n";</pre>
};
```

The class Triangle has a function called triangle(). Now we create a class derived from the base class Triangle called Isosceles.

```
class Isosceles : public Triangle{
   public:
      void isosceles(){
          cout<<"I am an isosceles triangle\n";</pre>
};
```

Now we can create a derived class object and use it to access the functions of the base class.

```
int main(){
   Isosceles isc;
   isc.isosceles();
   isc.triangle();
   return 0;
```

This code will print:

```
I am an isosceles triangle
I am a triangle
```

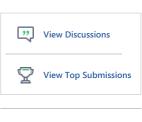
Now write a function in Isosceles class such that the output is as given below.

Sample Output

```
I am an isosceles triangle
In an isosceles triangle two sides are equal
I am a triangle
```

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```
C++14
Current Buffer (saved locally, editable) & 49
                                                                                                                      Ö
16 ▼ #include <iostream>
17 #include <memory>
18
19 class Shape
20 ▼ {
21 public:
        virtual const void triangle()const = 0;
22
23
        virtual ~Shape(){}
24 };
25
26 class Triangle: public Shape
27 ▼ {
28 public:
29
        virtual const void triangle()const override
30 ▼
        { std::cout<<"I am a triangle\n"; }</pre>
31 };
33 class Isosceles : public Triangle
34 ▼ {
35 public:
        virtual const void triangle()const override
36
37 ▼
        {
38
             std::cout<<"I am an isosceles triangle\n";</pre>
39
             std::cout<<"In an isosceles triangle two sides are equal\n";</pre>
40
41 };
42 int main()
43 ▼ {
44 ▼
        std::unique_ptr<Shape> Obj[2];
45
46 ▼
        Obj[0] = std::make_unique<Isosceles>();
47 ▼
        Obj[1] = std::make_unique<Triangle>();
48
        for(const auto &it: Obj)
49
50
            it->triangle();
51
52
        return 0;
53
    }
54
                                                                                                             Line: 54 Col: 1
```

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