

Access Specifiers in C++

Elementrix Classes

Access Specifiers in C++

In C++, there are three access specifiers:

- ❑ **public** - members are accessible from outside the class
- ❑ **private** - members cannot be accessed (or viewed) from outside the class
- ❑ **protected** - members cannot be accessed from outside the class, however, they can be accessed in inherited classes.

Example Program:

```
1 ▾ #include <iostream>
2   using namespace std;
3 ▾ class MyClass {
4   public:
5     int publicVar;      // can be accessed from anywhere
6 ▾   void publicFunc() { // can be accessed from anywhere
7     cout << "This is a public function" << endl;
8   }
9   private:
10    int privateVar;    // can only be accessed from within the class
11 ▾   void privateFunc() { // can only be accessed from within the class
12    cout << "This is a private function" << endl;
13  }
14  protected:
15    int protectedVar; // can only be accessed from within the class and its derived classes
16 ▾   void protectedFunc(){ // can only be accessed from within the class and its derived classes
17    cout << "This is a protected function" << endl;
18  }
19  };
```

```
20 ▾ class DerivedClass : public MyClass {
21     public:
22     ▾ void derivedFunc() {
23         // can access protectedVar and protectedFunc() from base class
24         cout << "Derived function accessing protectedVar: " << protectedVar << endl;
25         protectedFunc();
26     }
27 };
28 ▾ int main() {
29     MyClass obj;
30     obj.publicVar = 10;
31     obj.publicFunc();
32
33     //obj.privateVar = 20; // error: private member cannot be accessed
34     //obj.privateFunc(); // error: private member cannot be accessed
35     //obj.protectedVar = 30; // error: protected member cannot be accessed
36     //obj.protectedFunc(); // error: protected member cannot be accessed
37     DerivedClass dObj;
38     dObj.derivedFunc(); // okay: can access protected member from derived class
39     return 0;
40 }
```

✕ Output

```
This is a public function  
Derived function accessing protectedVar: 0  
This is a protected function
```

```
Process Finished.
```

```
>>> █
```

पढ़िए और पढ़ाइये

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