

Class in Object Oriented Programming

Elementrix Classes

Class in Object Oriented Programming

- ❑ It is a user defined data type, which consists of both data and functions into a single unit.
- ❑ In OOP data must be represented in the form of a class . A class contains variables for storing data and functions to specify various operations that can be performed and hence
- ❑ It is only logical representation of data and not physical representation.
- ❑ So class is collection of Data members and Member functions.

- ❑ class is a blueprint of an object.
- ❑ Once a class has been defined we can create any number of objects.
- ❑ Each object is associated with the data of type class which they were created.
- ❑ class provides the concept of Encapsulation.
- ❑ class provides the concept of Data hiding with private declarations.

Declaration of C++ class:

- ❑ A class declaration defines a blueprint for creating objects that encapsulate data (attributes) and behavior (methods). Here's a breakdown of its essential elements:

Syntax:

```
class ClassName {  
    // Member declarations  
  
    // Access specifiers (public, private, protected)  
  
    // Data members (variables)  
  
    // Member functions (methods)  
  
};
```

Example Program:

```
1 ▾ #include<iostream>
2   using namespace std;
3   class temp
4 ▾ {
5   int a;
6   private :
7   void read()
8 ▾ {
9   a=100;
10  cout<<a;
11  }
12  };
```

```
13  int main()
14 ▾ {
15  temp obj;
16  //obj.a=10;
17  obj.read();
18  return 0;
19  }
```

✕ Output

100

Process Finished.

>>> |

✕ Output

```
source_file.cpp: In function 'int main()':  
source_file.cpp:16:5: error: 'int temp::a' is private within this class  
    obj.a=10;  
      ^
```

```
source_file.cpp:5:5: note: declared private here  
    int a;  
      ^
```

Process Finished.

>>> |

To access the members we have to create object .

NOTE: In c++ the private data should be accessed only by member functions of the same class.

Member functions : The functions which are declared inside the class are called as member functions.

Default access specifier in C++ is private.

so here 'a' is a private member .

private members are not directly accessible from outside the class. (this is called data hiding it is achieved with private declarations.)

main() is out side the class so 'a' is not accessible with object from main

obj.a =10 is an invalid statement.

पढ़िए और पढ़ाइये

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