# Classes in OOPs

# Classes

➤ *Classes* are an expanded concept of *data structures*: like data structures, they can contain data members, but they can also contain functions as members.

➤ An *object* is an instantiation of a class. In terms of variables, a class would be the type, and an object would be the variable.

➤ Classes are defined using keyword class:
```
class  class-name
{
    access-specifier1:   member 1;
     access-specifier2:   member 2;
         ………………
    };
```

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# General form of class

```
class MyClass           // The class
{

   public:            // Access specifier
   int myNum;         // Attribute (int variable)
   string myString;  // Attribute (string variable)
};
```

Explained:

The class keyword is used to create class Myclass.

The public keyword is access-specifier to find whether members of the class is access outside of the class.

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myNum; and myString; are attributes (It is same as variable but when it is declared inside class then it is called attributes). Always, end the class definition with semicolon.

# Data Members and Member function of the class

- **"Data Member"** and **"Member Functions"** are the new names/terms for the members of a class.

- The variables which are declared in any class by using any [fundamental data types](#) (like int, char, float etc) or derived data type (like class, structure, pointer etc.) are known as **Data Members**.

- The functions which are declared either in private section of public section are known as **Member functions**.

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- There are two **types of data members/member functions in C++**:
  - ➢Private members
  - ➢Public members

# Access Specifier

The commands that are used to specify the access level of class members are known as access specifier. Following are the category of access specifier.

1) Private members

The members which are declared in private section of the class (using private access modifier) are known as private members. Private members can also be accessible within the same class in which they are declared.

2) Public members  cslearnerr.com

The members which are declared in public section of the class (using public access modifier) are known as public members. Public members can access within the class and outside of the class by using the object name of the class in which they are declared.

# Example :

```cpp
class.cpp
1    #include<iostream>
2    using namespace std;
3    class test
4  { private:
5        int a;
6    public:
7        void ne()
8        {
9            cout<<"Enter a value:";
10           cin>>a;
11       }
12 };
13 int main()
14 {
15     test obj;
16     obj.ne();
17     return 0;
18 }
```

Select E:\Programming-Lectures\class.exe

```
Enter a value:4

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Process exited after 1.798 seconds with return value 0
Press any key to continue . . .
```