**Class :**

A class is a logical method to organize data and functions in the same structure.

They are declared using keyword **class** , whose functionality is similar to that of the C keyword **struct ,** it has the possibility of including functions as members, with data members.

**Encapsulation :**

A member data and member functions combined in one class.

**Data Hiding :**

For member access control , classes can provide private access control to protect data from unauthorized use .

**Constructor :**

1. It's a member function .
2. It has the same name of the class .
3. It will not return value and will not write void .
4. It must be in the public part in the class .
5. It will called automatic when creating an object of type this class .

**Destructor :**

1. It's a member function .
2. It has the same name of the class preceded by " ~ " .
3. It will not return value and will not write void .
4. It must be in the public part in the class .
5. It will called automatic before an object of type this class destroyed .

**Function overloading :**

The program can have multiple definitions for the same function name in the same scope . the definition of the function must differ from each other by the types and/or the number of arguments in the argument list.

You can not overload function declarations that differ only by return type .

**Member function :**

It is a function belongs to class or a function and it is called through an object that belongs to this class .

**Scope resolution operator :**

 Is used to define a function outside a class . It linked function declaration to its definition .

**Operator Overloading :**

Overload most of the built-in operators available in C++ . Thus a programmer can use operators with user-defined types as well.

Overloading operators are functions with special names the keyword "operator" followed by the symbol for the operator being defined . like any other function , an overloaded operator has a return type and a parameter list .

**Friend function :**

A non-member function that can access the private and protected members of a class if it is declared a friend of that class .That is done by including a declaration of this external function within the class , and preceding it with the keyword "friend" .

**Constructor Overloading :**

Constructor can be overloaded in a similar way as function overloading.

Overloaded constructors have the same name (name of the class) but different number of arguments.

Depending upon the number and type of arguments passed, specific constructor is called.

Since, there are multiple constructors present, argument to the constructor should also be passed while creating an object.

**Do you have Destructor Overloading ?**

A destructor can never be overloaded. An overloaded destructor would mean that the destructor has taken arguments. Since a destructor does not take arguments, it can never be overloaded.

**Difference between Binary & Unary Operator ?**

Unary operators can be overloaded as ordinary functions that take a single argument of class or reference to class type.   
Binary operators can be overloaded as ordinary functions that take one or both arguments of class or reference to class type.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Non-member | Member func. | Friend function |
| Unary | 1 parameter | Non parameter | 1 parameter |
| Binary | 2 parameter | 1 parameter | 2 parameter |