 **Passing object to a function**

The objects of a class can be passed as arguments to member functions as well as nonmember functions either by value or by reference. When an object is passed by value, a copy of the actual object is created inside the function. This copy is destroyed when the function terminates. Moreover, any changes made to the copy of the object inside the function are not reflected in the actual object. On the other hand, in pass by reference, only a reference to that object (not the entire object) is passed to the function. Thus, the changes made to the object within the function are also reflected in the actual object.

Whenever an object of a class is passed to a member function of the same class, its data members can be accessed inside the function using the object name and the dot operator. However, the data members of the calling object can be directly accessed inside the function without using the object name and the dot operator.

See the Video on passing and returning object to the function using following link: <https://www.youtube.com/watch?v=w35ObkSRq48>

Here in class A we have a function disp() in which we are passing the object of class A. Similarly we can pass the object of another class to a function of different class.

**Example:**

**Output:**

**Example: C++ program to add two complex number by passing objects as function arguments (BY VALUE)**

**Output:**

**Example: C++ program to add two complex number by passing objects as function arguments(BY REFERENCE)**

**Output:**

**Return object from a function**

The syntax for defining a function that returns an object by value is

class\_name function\_name (parameter\_list)

{

*// body*of the function

}

**Example 1: C++ Return Object from a Function**

**Output:**

**Explanation**

In this program, we have created a function createStudent() that returns an object of Student class.

We have called createStudent() from the main() method.

// Call function

student1 = createStudent();

Here, we are storing **the object returned by the createStudent() method in the student1.**

In this example we have two functions, the function input() returns the Student object and disp() takes Student object as an argument.

**Example 2: Return object from a function**

**Output:**

**Frequently Asked Questions about Flowchart**

Some of the most frequently asked questions are:

**Q1**: Whenever an object is returned by value \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a) A temporary object is created

b) Temporary object is not created

c) Temporary object may or may not be created

d) New permanent object is created

Ans : a)

**Q2**: Which is the correct syntax for returning an object by value?

a) void functionName ( ){ }

b) object functionName( ) { }

c) class object functionName( ) { }

d) ClassName functionName ( ){ }

Ans: d)

**Q3**: If an object is declared inside the function then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ outside the function.

a) It can be returned by reference

b) It can’t be returned by reference

c) It can be returned by address

d) It can’t be returned at all

Ans b)

**Q4:** If object is passed by reference \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a) Temporary object is created

b) Temporary object is created inside the function

c) Temporary object is created for few seconds

d) Temporary object is not created

Ans d)

Q5: Can we return an array of objects?

a) Yes, always

b) Ye, only if objects are having same values

c) No, because objects contain many other values

d) No, because objects are single entity

Ans: a)