

```
1 // C++ Program to illustrates the use of Constructors in multilevel inheritance */
2
3 #include<iostream>
4 using namespace std;
5
6 class A
7 {
8     protected:
9         int x ;
10    public:
11        A( ) // Constructor without argument
12        {
13            x = 0 ;
14            cout << "\n Constructor of class A without any argument is invoked" ;
15        }
16        A(int X) // Constructor with one argument
17        {
18            x = X ;
19            cout << "\n Constructor of class A with one argument is invoked" ;
20        }
21        void Enter_x(void)
22        { cout << "\n\t Enter the value of x: " ; cin >> x ; }
23        void Display_x(void)
24        { cout << "\n\t x = " << x ; }
25    };
26
27 class B : public A
28 {
29     protected:
30         int y ;
31     public:
32 }
```

```
29     protected:
30         int y ;
31     public:
32        B( ) : A( ) // Constructor without argument
33        {
34            y = 0;
35            cout << "\n Constructor of class B without any argument is invoked" ;
36        }
37        // Constructor with two arguments
38        B( int X, // Argument for constructor A
39           int Y ) // Argument for constructor B
40           : A(X) // Call for constructor A
41        {
42            y = Y;
43            cout << "\n Constructor of class B with two arguments in invoked" ;
44        }
45        void Enter_y(void)
46        { cout << "\t Enter the value of y: " ; cin >> y ; }
47        void Display_y(void)
48        { cout << "\n\t y = " << y ; }
49    };
50
51 class C : public B
52 {
53     private:
54         int z ;
55     public:
56        C( ) : B( ) // Constructor without argument
57        {
58            z = 0;
59            cout << "\n Constructor of class C without any argument is invoked\n" ;
60        }
61 }
```

```
main.cpp
61 // Constructor with three arguments
62 C(int X, int Y, // Arguments for constructor B
63     int Z) // Argument for constructor C
64     : B(X, Y) // Call for constructor B
65 {
66     z = Z;
67     cout << "\n Constructor of class C with three arguments is invoked" ;
68 }
69 void Enter_z(void)
70 { cout << "\t Enter the value of z: " ; cin >> z ; }
71 void Display_z(void)
72 { cout << "\n\t z = " << z ; }
73 };
74
75
76 int main()
77 {
78     cout << "\n The first object is in use now***** \n " ;
79     C c1 ;
80     c1.Enter_x( );
81     c1.Enter_y( );
82     c1.Enter_z( );
83     c1.Display_x( );
84     c1.Display_y( );
85     c1.Display_z( );
86     cout << "\n\n The second object is in use now***** \n" ;
87     C c2(5, 6, 7) ;
88     c2.Display_x( );
89     c2.Display_y( );
90     c2.Display_z( );
91     return 0;
92 }
```

```
input
The first object is in use now*****
Constructor of class A without any argument is invoked
Constructor of class B without any argument is invoked
Constructor of class C without any argument is invoked

Enter the value of x: 5
Enter the value of y: 10
Enter the value of z: 15

x = 5
y = 10
z = 15

The second object is in use now*****
Constructor of class A with one argument is invoked
Constructor of class B with two arguments is invoked
Constructor of class C with three arguments is invoked

x = 5
y = 6
z = 7

...Program finished with exit code 0
Press ENTER to exit console.[]
```