Solution Code

```
/* C++ Program to illustrates the use of Constructors in multilevel inheritance  */

#include<iostream>
using namespace std;

class A
{
        protected:
                int x ;
        public:
                A( )  // Constructor without argument
                {
                    x = 0 ;
                    cout << "\n Constructor of class A without any argument is
invoked" ;
                }
                A(int X) // Constructor with one argument
                {
                     x = X ;
                     cout << "\n Constructor of class A with one argument is invoked" ;
                }
                void Enter_x(void)
                {  cout << "\n\t Enter the value of x: " ; cin >> x ; }
                void Display_x(void)
                { cout << "\n\t x = " << x ; }
};
```

Solution Code

```
class B : public A
{
        protected:
                int y ;
        public:
                B( ) : A( )  // Constructor without argument
                {
                        y = 0;
                        cout << "\n Constructor of class B without any argument is
invoked" ;
                }
                  // Constructor with two arguments
                B( int X,  // Argument for constructor A
                         int Y )   // Argument for constructor B
                                 : A(X)   // Call for constructor A
                {
                        y = Y;
                        cout << "\n Constructor of class B with two arguments in
invoked" ;
                }
                void Enter_y(void)
                { cout << "\t Enter the value of y: " ; cin >> y ;  }
                void Display_y(void)
                { cout << "\n\t y = " << y ;  }
};
```

Solution Code

```
class C : public B
{
        private:
                int z ;
        public:
                C( ) : B( )   // Constructor without argument
                {
                    z = 0;
                    cout << "\n Constructor of class C without any argument is
invoked\n" ;
                }
                // Constructor with three arguments
                C(int X, int Y,   // Arguments for constructor B
                                int Z)     // Argument for constructor C
                                        : B(X, Y)    // Call for constructor B
                {
                    z = Z ;
                    cout << "\n Constructor of class C with three arguments is
invoked" ;
                }
                void Enter_z(void)
                { cout << "\t Enter the value of z: " ; cin >> z ; }
                void Display_z(void)
                { cout << "\n\t z = " << z ; }
};
```

Solution Code


```
int main()
{
        cout << "\n The first object is in use now******** \n " ;
        C c1 ;
        c1.Enter_x( );
        c1.Enter_y( );
        c1.Enter_z( );
        c1.Display_x( );
        c1.Display_y( );
        c1.Display_z( );
        cout << "\n\n The second object is in use now******** \n" ;
        C c2(5, 6, 7) ;
        c2.Display_x( );
        c2.Display_y( );
        c2.Display_z( );
return 0;
}
```