

Design a class named *Box* whose dimensions are integers and private to the class. The dimensions are labelled: length *l*, breadth *b*, and height *h*.

The default constructor of the class should initialize *l*, *b*, and *h* to 0.

The parameterized constructor *Box(int length, int breadth, int height)* should initialize *Box*'s *l*, *b* and *h* to length, breadth and height.

The copy constructor *Box(Box B)* should set *l*, *b* and *h* to *B*'s *l*, *b* and *h*, respectively.

Apart from the above, the class should have 4 functions:

- *int getLength()* - Return box's length
- *int getBreadth()* - Return box's breadth
- *int getHeight()* - Return box's height
- *long long CalculateVolume()* - Return the volume of the box

Overload the operator $<$ for the class *Box*. *Box A* $<$ *Box B* if:

1. *A.l* $<$ *B.l*
2. *A.b* $<$ *B.b* and *A.l* $==$ *B.l*
3. *A.h* $<$ *B.h* and *A.b* $==$ *B.b* and *A.l* $==$ *B.l*

Overload operator $<<$ for the class *Box()*.

If *B* is an object of class *Box*:

cout $<<$ *B* should print *B.l*, *B.b* and *B.h* on a single line separated by spaces.

For example,

```
Box b1; // Should set b1.l = b1.b = b1.h = 0;
Box b2(2, 3, 4); // Should set b1.l = 2, b1.b = 3, b1.h = 4;
b2.getLength(); // Should return 2
b2.getBreadth(); // Should return 3
b2.getHeight(); // Should return 4
b2.CalculateVolume(); // Should return 24
bool x = (b1 < b2); // Should return true based on the conditions given
cout<<b2; // Should print 2 3 4 in order.
```

Constraints

$$0 \leq l, b, h \leq 10^5$$

Two boxes being compared using the $<$ operator will not have all three dimensions equal.