

Box It!

Design a class named *Box* whose dimensions are integers and private to the class. The dimensions are labeled: 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.

Every constructor should increment the global variable *BoxesCreated*.

The destructor should increment the global variable *BoxesDestroyed*.

Apart from the constructor and destructor, 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.

Constraints

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

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