

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 \le l,b,h \le 10^5\$

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