

A Class Definition

integerSet.h + integerSet.cpp

- Define, implement, and test a set of integers – class ***IntegerSet***.
 - Provide union, intersection, difference and symmetric difference operations.
 - **Symmetric difference: Elements in one but not both sets.**
 - Also provide other necessary operations, such as initialization, assignment, insert (an element), erase (an element), isSubset (another set is a subset), isMember (an integer is a member of a set), print (all elements), size (the number of elements), capacity (maximum number of elements allowed), isEmpty (a set is empty), clear (all elements) etc.
 - Provide exception handling.

Execution of the Program

- Develop the program.

`integerSet.h` + `integerSet.cpp` + **`integerSetTest.cpp`** → *integerSetTest*

- Execution:

Run *integerSetTest* , enter several integers to two sets *s1* and *s2*, output *s1*, *s2*, and the result of union, intersection, difference and symmetric difference of two *sets*.

Requirement

- **The elements in the set must be sorted in ascending order.**

Optional

Try using the operators $\&$, $|$, and $-$ to perform intersection, union, and difference operations on sets.