Assignment 4
CSC415
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Test Case Design

Functionality Tested	Inputs	Expected Output	Actual Output
Find the union of 2 sets where the result has less than 100 elements.	setA, setB	setC	setC with no duplicates
Find the union of 2 sets with some duplicates and where the result has more than 100 elements.	setA, setB	setC with duplicates removed, and upto 100 elements stored	setC with no duplicates and first n objects until setC is full, a message is displayed
Find the intersection of two sets	setA, setB	setC which contains Complex objects common in both input sets	setC with common elements
Input set from file with <=100 elements	ifstream, setA	setA contains an array of Complex numbers without duplicates	setA contains an array of Complex numbers, no duplicates
Input set from screen with <=100 elements	cin, setA	setA contains an array of Complex numbers without duplicates	setA contains an array of Complex numbers, no duplicates
Input set from file with >100 elements	ifstream, setA	setA contains an array of upto 100 Complex numbers without duplicates	setA contains the first 100 complex numbers without duplicates, a message is displayed
Input format from screen is invalid	cin, setA	Error handled gracefully	Message is displayed and operation not performed.
Input set from file with bad filename	ifstream, setA	Error handled gracefully	Message is displayed. Program exits.
One set is replaced with another	setA, setB	setA obtains the values of setB with the same size	setA obtains the values of setB with the same size
Complex number is assigned to set	setA, c1	setA becomes a set of one element, c1	setA becomes a set of one element, c1
An element is added to a full set	setA, c1	operation is not performed	Message is displayed and operation is not performed.
Reversibility: complex + set and set + complex	setA, c1	Both do the same function	both do the same function
Items can be removed from sets	setA, c1	If c1 is found in setA, the object is removed	The object was removed. The last object in the set replaces that object in the array.