

```
1  /// <summary>
2  ///     Alfredo Vargas
3  ///     014270722
4  ///     CECS 475: Lab Assignment
5  ///     Due Date: 9/5
6  ///     Professor Nguyen
7  ///     CSULB
8  /// </summary>
9
10 using System;
11
12 namespace CECS_475_Lab1
13 {
14     /// <summary>
15     ///     Program class of the project
16     /// </summary>
17     class Program
18     {
19         /// <summary>
20         ///     Prompt the user for a set of integers
21         /// </summary>
22         /// <value>
23         ///     String S: Holds the users input of integer set
24         /// </value>
25         /// <returns>
26         ///     IntegerSet object with users input of integer set
27         /// </returns>
28         static IntegerSet InputSet()
29         {
30             Console.WriteLine("Enter a set of integers (0 - 100): ");
31             string s = Console.ReadLine().Trim();
32             Console.WriteLine(s);
33             if (s.Length < 1)
34                 return new IntegerSet();
35             int[] intList = Array.ConvertAll(s.Split(" "), int.Parse);
36             return new IntegerSet(intList);
37         }
38
39         /// <summary>
40         ///     Main function of the project
41         /// </summary>
42         /// <param name="args"></param>
43         static void Main(string[] args)
44         {
45             // initialize two sets
46             Console.WriteLine("input set a");
47             IntegerSet set1 = InputSet();
48             Console.WriteLine("\ninput set b");
49             IntegerSet set2 = InputSet();
50
51             IntegerSet Union = set1.Union(set2);
52             IntegerSet intersection = set1.Intersect(set2);
```

```
53
54         // prepare output
55         Console.WriteLine("\nset a contains elements:");
56         Console.WriteLine(set1.ToString());
57         Console.WriteLine("\nset b contains elements:");
58         Console.WriteLine(set2.ToString());
59         Console.WriteLine(
60             "\nUnion of set a and set b contains elements:");
61         Console.WriteLine(Union.ToString());
62         Console.WriteLine(
63             "\nintersection of set a and set b contains elements:");
64         Console.WriteLine(intersection.ToString());
65
66         // test whether two sets are equal
67         if (set1.IsEqualTo(set2))
68             Console.WriteLine("\nset a is equal to set b");
69         else
70             Console.WriteLine("\nset a is not equal to set b");
71
72         // test insert and delete
73         Console.WriteLine("\ninserting 77 into set a...");
74         set1.InsertElement(77);
75         Console.WriteLine("\nset a now contains elements:");
76         Console.WriteLine(set1.ToString());
77
78         Console.WriteLine("\ndeleting 77 from set a...");
79         set1.DeleteElement(77);
80         Console.WriteLine("\nset a now contains elements:");
81         Console.WriteLine(set1.ToString());
82
83         // test constructor
84         int[] intarray = { 25, 67, 2, 9, 99, 105, 45, -5, 100, 1 };
85         IntegerSet set3 = new IntegerSet(intarray);
86
87         Console.WriteLine("\nnew set contains elements:");
88         Console.WriteLine(set3.ToString());
89         Console.Write("Press any key to continue...");
90         Console.ReadKey(true);
91     }
92 }
93 }
94
```