```
1  using System;
2  using System.Collections.Generic;
3
4  namespace LabAssignment1
5  {
6      class Program
7      {
8          static void Main(string[] args)
9          {
10             // Initialize two sets.
11             Console.WriteLine("\nEnter the number of elements in Set A");
12             int iNum = default;
13             while (!int.TryParse(Console.ReadLine(), out iNum))
14             {
15                 Console.WriteLine("\nEnter a valid number!");
16             }
17             IntegerSet set1 = InputSet(iNum);
18             Console.WriteLine("\nEnter the number of elements in Set B");
19             while (!int.TryParse(Console.ReadLine(), out iNum))
20             {
21                 Console.WriteLine("\nEnter a valid number!");
22             }
23             IntegerSet set2 = InputSet(iNum);
24             IntegerSet union = set1.Union(set2);
25             IntegerSet intersection = set1.Intersection(set2);
26
27             // Prepare output.
28             Console.WriteLine("\nSet A contains elements:");
29             Console.WriteLine(set1.ToString());
30             Console.WriteLine("\nSet B contains elements:");
31             Console.WriteLine(set2.ToString());
32             Console.WriteLine("\nUnion of Set A and Set B contains elements:");
33             Console.WriteLine(union.ToString());
34             Console.WriteLine("\nIntersection of Set A and Set B contains
                 elements:");
35             Console.WriteLine(intersection.ToString());
36
37             // Test whether two sets are equal.
38             if (set1.IsEqualTo(set2))
39                 Console.WriteLine("\nSet A is equal to set B");
40             else
41                 Console.WriteLine("\nSet A is not equal to set B");
42
43             // Test insert and delete.
44             Console.WriteLine("\nInserting 77 into set A...");
45             set1.InsertElement(77);
46             Console.WriteLine("\nSet A now contains elements:");
47             Console.WriteLine(set1.ToString());
48
```

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49              Console.WriteLine("\nDeleting 77 from set A...");
50              set1.DeleteElement(77);
51              Console.WriteLine("\nSet A now contains elements:");
52              Console.WriteLine(set1.ToString());
53
54              // Test constructor.
55              int[] intArray = { 25, 67, 2, 9, 99, 105, 45, -5, 100, 1 };
56              IntegerSet set3 = new IntegerSet(intArray);
57
58              Console.WriteLine("\nNew Set contains elements:");
59              Console.WriteLine(set3.ToString());
60              Console.ReadLine();
61          }
62
63          /// <summary>
64          /// Get the user input and fill the set with TRUE/FALSE by using
              InserElement()
65          /// </summary>
66          /// <param name="iNumSet"></param>
67          /// <returns> Returns IntegerSet object </returns>
68          private static IntegerSet InputSet(int iNumSet)
69          {
70              IntegerSet iSet = new IntegerSet();
71              // Get the number of elements in the set.
72              Console.WriteLine("\nEnter the Elements");
73              for (int i=0; i<iNumSet;i++)
74              {
75                  int iNum = default;
76                  while (!int.TryParse(Console.ReadLine(), out iNum))
77                  {
78                      Console.WriteLine("\nEnter a valid number!");
79                  }
80                  // Build the IntergerSet object with TRUE/FALSE value by passing
                      the input elements to InsertElement()
81                  iSet.InsertElement(iNum);
82              }
83              return iSet;
84          }
85      }
86  }
87
```