Problem Set 09 - Vector Algorithms

Write the following programs using the *Vector* class. Each program should be written in a separate file named

`main9`*n*`.cpp`

where *n* is the number of the task.

Tasks:

1. Define an string *Vector* function named `WordBank()` that takes no parameters. It prompts the user to enter a word and stores it until the word `stop` is entered. Afterward, it returns the stored words.

   Next, in the main function,

   a. Initialize a *Vector* object with a `WordBank()` invocation,
   b. Display the object.

2. Define a void function named `RemoveDuplicates()` that takes a generic *Vector* reference parameter. It removes all duplicates from the parameter.

   Next, in the main function,

   a. Declare an int *Vector* object,
   b. Assign the object 20 random integers between 1 and 15, inclusively,
   c. Display the object,
   d. Invoke `RemoveDuplicates()` with the object as the argument,
   e. Display the object.

3. Define a Boolean function named `Expand()` that takes two generic *Vector* reference parameters. It adds values from the first parameter not in the second parameter to the second parameter. It returns true if no values are added to the second parameter; otherwise, it returns false.

   Next, in the main function,

   a. Declare three int *Vector* objects,
   b. Assign each object at least 10 values such that one object contains all the values of another.
   c. Display all the objects.
   d. Invoke `Expand()` with the objects with similar values.
   e. Display all the objects.
   f. Invoke `Expand()` with the last object and one of the objects used in the first invocation.