Create a template-based class that implements a set of items. A set is a collection of items in which no item occurs more than once. It should do the following:

* Add a new item to the set
* Remove an item from the set
* Return the number of items in the set
* Determine if an item is a member of the set
* Return a pointer to a dynamically created array containing each item in the set

Write a template-based class that implements a set of items. A set is a col-lection of items in which no item occurs more than once. Internally, you

may represent the set using the data structure of your choice (for example,

list, vector, arrays, etc.). However, the class should externally support the

following functions:

a. Add a new item to the set. If the item is already in the set then nothing

happens.

b. Remove an item from the set.

c. Return the number of items in the set.

d. Determine if an item is a member of the set.

e. Return a pointer to a dynamically created array containing each item

in the set. The caller of this function is responsible for deallocating

the memory.

Test your class by creating different sets of different data types (for example,

strings, integers, or other classes). If you add objects to your set, then you

may need to overload the == and != operators for the object’s class so your

template-based set class can properly determine membership.

generic