

Initial "UML" for **bst** template class  
adapted from Ch. 10, Savitch and Main, "Data Structures and Other Objects Using C++"

**Template Class: bst<Item>**

/\* a binary search tree where each node contains an Item.  
For this version, it is assumed that all nodes contain different-valued Items. \*/

**Member data and related details:**

\* contains elements of type **value\_type**; this is set to be the value of template parameter **Item**  
\* has a size of **size\_t**

**Constructors:**

/\* postcondition: creates an empty **bst** instance (with no nodes) \*/  
**bst( ) ;**

**Accessors and other observer member functions:**

/\* postcondition: returns the number of nodes in the bst. \*/  
**size\_t get\_size( ) const ;**

/\* postcondition: returns **true** if bst is empty, and returns **false** otherwise \*/  
**bool is\_empty( ) const ;**

/\* postconditions: returns true if **entry** is in this bst, and returns false otherwise \*/  
**bool contains(const Item& entry) ;**

**Modifiers and other modifying member functions:**

/\* postconditions: IF **entry** is already in the bst, the bst is unchanged.  
otherwise, **entry** is added to the bst in such a way that the binary search  
tree properties still hold. \*/  
**void add(const Item& entry) ;**

/\* postconditions: prints the current contents of the bst, 1 per line, as they result from an in-order  
traversal. \*/  
**void print\_inorder( ) ;**