Assignment Objective: Build skills on C class creation and integration while implementing a **Binary Search Tree (BST)**.

Requirements:

* Create a class called iBST with the following members
  + Private members:
    - A node class, iNode, that provides the nodes to of the tree.
      * The constructor for iNode should be of the form iNode(int val)
    - An integer “tCount” to record the number of entries in the BST
    - findMin(node \*ptr) to find the minimum value in the tree to which ptr points.
    - Private methods to support insertV(), deleteV(), isIn(), printIt(), and clear().
  + Public members:
    - constructor iBST() that causes the object to be initialized
    - destructor ~iBST() –deletes all the nodes in the BST in preparation for the BST to be destroyed.
    - bool insertV(int v) – Inserts v into the tree; returns true for success; returns false if the value is already in the tree.
    - bool deleteV(int v) – removes the node whose value is v, deleting the node; returns true on success; returns false if the node is not found.
    - bool isIn(int v) – returns true if the node with value v is in the tree; otherwise returns false.
    - void printIt() – results in the BST’s values being printed in ascending order, one value per line.
    - int count() – returns the number of nodes in the tree
    - void clear() – removes all nodes from the BST, making the BST empty.
* You must not use any other data structure, whether built-in or otherwise.
* Compile your program: g++ p4.cpp p4m.cpp -o p4m
* Demonstrate that the iBST data structure works:
  + Run your program as follows:

p4m < p4input.txt > p4output.txt

* + Compare your output file, p4output.txt, to the posted p4correctOutput.txt file
* Deliverables:
  + Into D2L put a zip file containing:
    - A p4.h file for your BST ADT
    - A p4.cpp file for your BST ADT implementation
    - A p4output.txt text file with your output
    - DO NOT put a project into D2L
  + Turned into class, a hardcopy of your p4.h, p4.cpp, and p4output.txt files; virtual students will email this.