Name_____

1. Write a C++ program that includes a function *prompt()* to request a user to enter an arbitrary text string. The function will store the char* string in a (dynamic – use new and delete to manage) buffer that was passed by reference from the main function.

2. Build a simple data structure of type Node. Let a Node contain the following members,

```
void initialize(int aValue);        // set myData to aValue, nextPtr to NULL
void show(void);                    // print out myData
int get(void);                      // return myData
int myData;
Node* nextPtr;
```

   Demonstrate each of your member functions.

3. Add the following member function to your Node data structure.

```
void add(Node* aNode);
```

   This function is to accept an argument of type pointer to Node and assign that pointer to the variable nextPtr.

   In main, declare a pointer of type Node and let it point to an instance of the Node data type that you allocate with new.

   Initialize your new Node instance to the value 1 using its initialize() member function.

   Declare a second instance of the Node data type. Initialize it to the value 2. Use your add() member function to add the new instance to the first.

   Repeat the previous step for a third and fourth instance of the Node data type with data 3 and 4 respectively.

4. Write a function display(Node* aNodePtr) that takes a pointer to a Node instance as it's argument, invokes the show() method for that node, and then repeats the process for the Node pointed to by the nextPtr member. Continue for all elements in the collection.