```
* Xuechao Li
* Project4 practice
//Libary imports.
#include .....
using namespace std;
//Structure for creating a linked list that holds a trivia question, answer and point
amount.
struct triva node {
      string question;
      string answer;
      int point;
      triva_node *next;
};
//creates a pointer to triva_node.
typedef triva_node* ptr_node;
//Prototypes
void .....
//creates two versions.
//#define UNIT TESTING
#define triva_quiz
int main() {
      Unit_test();
      ptr_node node_list = new triva_node;
      //Creates a new trivia game /
      //Sets up three original questions/
      //Sets up loop for user to input his or her own questions.
      //Quiz questions are stored in linked list.
#ifdef triva_quiz
      init_question_list(node_list);
      cout << "*** Welcome to ......trivia quiz game ***\n";</pre>
       add_question(node_list);
      cout << "Continue? (Yes/No): ";</pre>
      //This is start of Trivia quiz game.
      ask_question(node_list, num_of_questions);
       cout << "\n*** Thank you for playing the trivia quiz game. Goodbye! ***";</pre>
      return 0;
}
#endif
//Method for testing
#ifdef UNIT_TESTING
```

```
Unit Test();
       return 0;
#endif
//initializes the quiz to have these three questions inputted into the linked list.
void init_question_list(ptr_node& q_list) {
       //ptr_node cur_ptr;
       //ptr node cur ptr;
       string bob;
       ptr_node cur_ptr = new triva_node;
       cur_ptr->question = "How long was the shortest war on record?";
       cur ptr->answer = "38";
       cur ptr->point = 100;
//gives user the option to add a question to the linked list.
//question is added to the front of the linked list.
void add_question(ptr_node& q_list) {
       string answer;
       //gets data from user.
       cout << "Enter a new question: ";</pre>
       getline(cin, new_ptr->question);
       ......
//Checks for null value
//Ask the user trivia questions and starts the game
int ask_question(ptr_node q_list, int num_ask) {
       if (q_list == NULL)
              return 0;
       if(num_ask < 1) {
              cout << "Warning - the number of trivia to be asked must equal to or be</pre>
larger than 1.";
       }
       else if(num_of_questions < num_ask) {</pre>
              cout << "Warning - There is only " << num_of_questions << " trivia in the
list.";
       }
       else {
       for(int x = 0; x < num_ask; x++) {</pre>
              cout << "Question: " << cur_ptr->question << endl;</pre>
              cout << "Answer: ";</pre>
              getline(cin, user answer);
              if (user answer.compare(cur ptr->answer) == 0) {//correct answer) {
                     •••••••••••••••••••••••••••••••••••
              else {
       cur_ptr = cur_ptr->next;
       }
```

```
return 0;

//Test cases to check whether the methods work.

void Unit_Test() {
    ptr_node node_list = new triva_node;
    init_question_list(node_list);
    cout << "Unit Test Case 1: Ask no question. The program should give a warning

message." << endl;
    ask_question(node_list, 0);
    cout << "\nCase 1 Passed\n\n";

    cout << "Unit Test Case 2: Ask 1 question in the linked list. The tester enters

an incorrect answer." << endl;
    cout << "\n\n*** End of the Debugging Version ***";
}
</pre>
```