// December 30, 2019

#include <iostream>

#include <iomanip> // setw()

#include <cctype> // toupper

#include <cstdlib> // EXIT\_SUCCESS

#include "Gaddis\_17\_1\_YourOwnLL\_Specification.h"

using namespace MyLL\_Ints;

void displayMenu();

int main(int argc, char\* argv[])

{

MyLL list; // Declare an instance object of class MyLL

MyLL::type\_value \*pointer = nullptr;

char choice = ' ';

int integer = 0,

target = 0,

minimumVal = 0,

maximumVal = 0,

message = 0;

do

{

std::cout << std::endl << std::endl

<< std::setw(50) << "LINKED LIST MENU" << std::endl

<< std::setw(50) << "---------------------------------------"

<< "---------------------------------------"

<< std::endl;

displayMenu();

std::cout << std::setw(50) << "---------------------------------------"

<< "---------------------------------------"

<< std::endl << std::endl;

std::cin >> choice;

std::cout << std::endl;

switch (choice)

{

case 'a':

case 'A': std::cout << "The choice you entered is: "

<< choice << std::endl

<< "Answer: " << list.FindListLength(pointer);

break;

case 'b':

case 'B': std::cout << "The choice you entered is: "

<< choice << std::endl

<< "Answer: " << list.IsSortedUp(pointer)

<< std::endl;

break;

case 'c':

case 'C': std::cout << "Please enter an nonnegative integer value: ";

std::cin >> integer;

std::cout << "The choice you entered is: "

<< choice << std::endl

<< "The value you entered is: "

<< integer;

list.InsertAsHead(pointer, integer);

break;

case 'd':

case 'D': std::cout << "Please enter an nonnegative integer value: ";

std::cin >> integer;

std::cout << "The choice you entered is: "

<< choice << std::endl

<< "The value you entered is: "

<< integer;

list.InsertAsTail(pointer, integer);

break;

case 'e':

case 'E': std::cout << "Please enter an nonnegative integer value: ";

std::cin >> integer;

std::cout << "The choice you entered is: "

<< choice << std::endl

<< "The value you entered is: "

<< integer;

list.InsertSortedUp(pointer, integer);

break;

case 'f':

case 'F': std::cout << "Please enter a nonnegative integer value: ";

std::cin >> target;

std::cout << "The choice you entered is: "

<< choice << std::endl

<< "The value you entered is: "

<< target;

list.DelFirstTargetNode(pointer, target);

break;

case 'g':

case 'G': std::cout << "Please enter a nonnegative integer value: ";

std::cin >> target;

std::cout << "The choice you entered is: "

<< choice << std::endl

<< "The value you entered is: "

<< target;

list.DelNodeBefore1stMatch(pointer, target);

break;

case 'h':

case 'H': std::cout << "The choice you entered is: "

<< choice << std::endl

<< "Here are the linked list data: " << " ";

list.ShowAll(std::cout, pointer);

break;

case 'i':

case 'I': std::cout << "The choice you entered is: "

<< choice << std::endl

<< "Minimum Value & Maximum Value: " << " ";

list.FindMinMax(pointer, minimumVal, maximumVal);

break;

case 'j':

case 'J': std::cout << "The choice you entered is: "

<< choice << std::endl

<< "The average is: ";

std::cout << list.FindAverage(pointer);

break;

case 'k':

case 'K': std::cout << "The choice you entered is: "

<< choice << std::endl

<< "The linked list is now sorted."

<< std::endl;

list.SortLinkedList(pointer);

break;

case 'l':

case 'L': std::cout << "The choice you entered is: "

<< choice << std::endl

<< "Enter promotion target: ";

std::cin >> target;

list.PromoteTarget(pointer, target);

break;

case 'm':

case 'M': std::cout << "The choice you entered is: "

<< choice << std::endl;

list.ListClear(pointer, message);

break;

}

} while (toupper(choice) != 'Q');

return EXIT\_SUCCESS;

}

void displayMenu()

{

std::cout << std::endl

<< std::setw(60)

<< "A) Find the linked list length." << std::endl

<< std::setw(67)

<< "B) Check if the linked list is sorted." << std::endl

<< std::setw(61)

<< "C) Insert integer value as head." << std::endl

<< std::setw(61)

<< "D) Insert integer value as tail." << std::endl

<< std::setw(80)

<< "E) Insert an integer value in a sorted linked list."

<< std::endl

<< std::setw(54)

<< "F) Delete a target node: " << std::endl

<< std::setw(70)

<< "G) Delete node before first target match." << std::endl

<< std::setw(58)

<< "H) Show all linked list data." << std::endl

<< std::setw(68)

<< "I) Find the minimum and maximum values." << std::endl

<< std::setw(82)

<< "J) Find the average of the values in the linked list."

<< std::endl

<< std::setw(53)

<< "K) Sort the linked list." << std::endl

<< std::setw(80)

<< "L) Promote target integer to the front of the list." << std::endl

<< std::setw(60)

<< "M) Clear the whole linked list." << std::endl

<< std::setw(49)

<< "Q) Quit the program."

<< std::endl << std::endl;

}