**Supporting File for Lab No. 11**

**LAB 11.1 Functions with No Parameters**

// This program prints the proverb

// "Now is the time for all good men to come to the aid of their party"

// in a function (procedure) called writeProverb that is called by the main function

//PLACE YOUR NAME HERE

#include <iostream>

using namespace std;

void writeProverb(); //This is the prototype for the writeProverb function

int main()

{

// Fill in the code to call the writeProverb function

return 0;

}

// \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// writeProverb

//

// task: This function prints a proverb

// data in: none

// data out: no actual parameter altered

//

// \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// Fill in the function heading and the body of the function that will print

// to the screen the proverb listed in the comments at the beginning of the

// program.

Exercise 1: Fill in the code (places in bold) so that the program will print out the

proverb listed in the comments at the beginning of the program. The

proverb will be printed by the function which is called by the main function.

**LAB 11.2 Introduction to Pass by Value**

// "Now is the time for all good men to come to the aid of their "

// Inputting a 1 will use the word party. Any other number will use the word country.

// PLACE YOUR NAME HERE

#include <iostream>

#include <string>

using namespace std;

// Fill in the prototype of the function writeProverb.

int main ()

{

int wordCode;

cout << "Given the phrase:" << endl;

cout << "Now is the time for all good men to come to the aid of their \_\_\_"

<< endl;

cout << "Input a 1 if you want the sentence to be finished with party"

<< endl;

cout << "Input any other number for the word country" << endl;

cout << "Please input your choice now" << endl;

cin >> wordCode;

cout << endl;

writeProverb(wordCode);

return 0;

}

// \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// writeProverb

//

// task: This function prints a proverb. The function takes a number

// from the call. If that number is a 1 it prints "Now is the time

// for all good men to come to the aid of their party."

// Otherwise, it prints "Now is the time for all good men

// to come to the aid of their country."

// data in: code for ending word of proverb (integer)

// data out: no actual parameter altered

//

// \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

void writeProverb (int number)

{

// Fill in the body of the function to accomplish what is described above

}

Exercise 1: Some people know this proverb as “Now is the time for all good

men to come to the aid of their country” while others heard it as “Now is

the time for all good men to come to the aid of their party.” This program

will allow the user to choose which way they want it printed. Fill in the

blanks of the program to accomplish what is described in the program

comments. What happens if you inadvertently enter a float such as -3.97?

Exercise 2: Change the program so that an input of 1 from the user will print

“party” at the end, a 2 will print “country” and any other number will be

invalid so that the user will need to enter a new choice.

**Sample Run:**

**Given the phrase:**

**Now is the time for all good men to come to the aid of their \_\_**

**Input a 1 if you want the sentence to be finished with party**

**Input a 2 if you want the sentence to be finished with country**

**Please input your choice now**

**4**

**I'm sorry but that is an incorrect choice; Please input a 1 or 2**

**2**

Now is the time for all good men to come to the aid of their country

Exercise 3: Change the previous program so the user may input the word to

end the phrase. The string holding the user’s input word will be passed to the

proverb function instead of passing a number to it. Notice that this change

requires you to change the proverb function heading and the prototype as

well as the call to the function.

**Sample Run:**

**Given the phrase:**

**Now is the time for all good men to come to the aid of their \_\_\_\_\_**

**Please input the word you would like to have finish the proverb**

**family**

**Now is the time for all good men to come to the aid of their family**

**LAB 11.3 Parameters and Local Variables**

In physics, an object that is in motion is said to have kinetic energy. The following formula can be used to determine a moving object’s kinetic energy:

The variables in the formula are as follows: KE is the kinetic energy, m is the object’s mass in kilograms, and v is the object’s velocity, in meters per second.

Design a function named kineticEnergy that accepts an object’s mass (in kilograms) and velocity (in meters per second) as arguments. The function should return the amount of kinetic energy that the object has. Design a program that asks the user to enter values for mass and velocity, and then calls the kineticEnergy function to get the object’s kinetic energy