

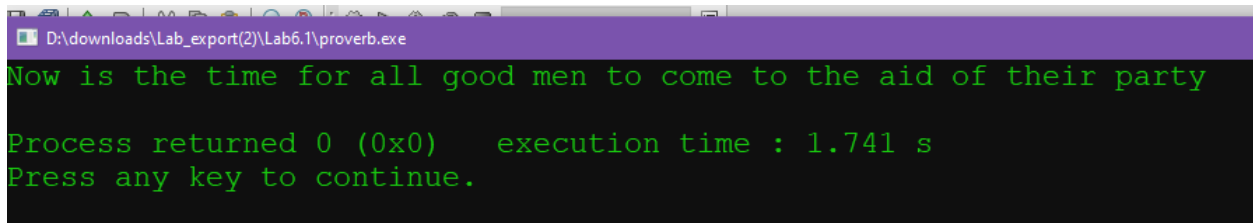
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Lab 6.1

6.1

1.

A screenshot of a Windows command prompt window. The title bar shows the file path "D:\downloads\Lab_export(2)\Lab6.1\proverb.exe". The command prompt displays the text "Now is the time for all good men to come to the aid of their party" in green. Below this, it shows "Process returned 0 (0x0) execution time : 1.741 s" and "Press any key to continue." in green. The background is black, and the text is green.

Source Code

```
// 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(){

    cout<<"Now is the time for all good men to come to the aid of their party"<<endl;

}    // This is the prototype for the writeProverb function
```

```

int main()
{
    writeProverb();

    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

```

1.

```
D:\downloads\Lab_export(2)\Lab6.1\newproverb.exe
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 any other number for the word country
Please input your choice now
1
Now is the time for all good men to come to the aid of their party
Process returned 0 (0x0)    execution time : 2.506 s
Press any key to continue.
```

When this is entered it just acts as another number that is not 1

```
D:\downloads\Lab_export(2)\Lab6.1\newproverb.exe
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 any other number for the word country
Please input your choice now
-3.97
Now is the time for all good men to come to the aid of their country
Process returned 0 (0x0)    execution time : 4.691 s
Press any key to continue.
```

D:\downloads\Lab_export(2)\Lab6.1\newproverb.exe

```
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 any other number for the word country
Please input your choice now
3

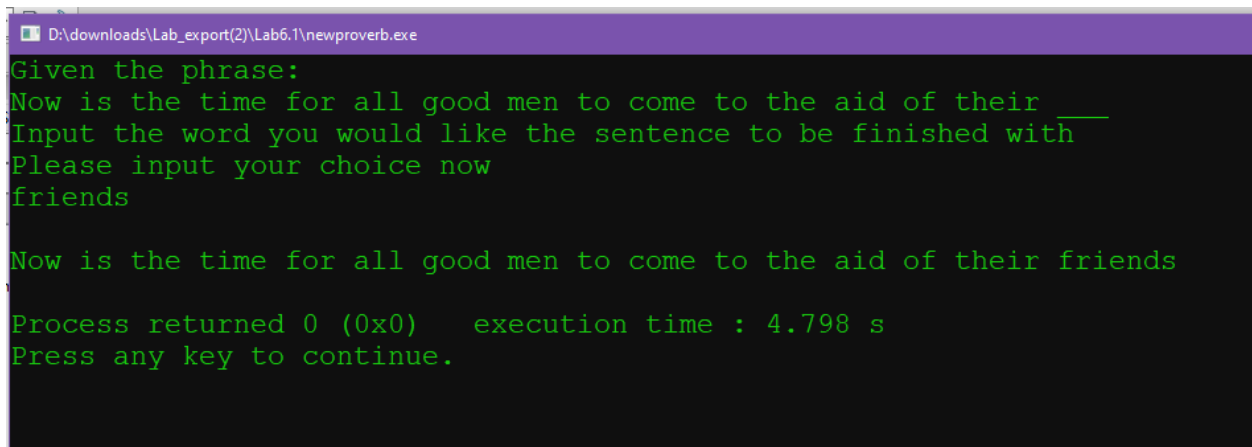
Invalid Input
4
Invalid Input
1
Now is the time for all good men to come to the aid of their party

Process returned 0 (0x0)   execution time : 4.285 s
Press any key to continue.
```

2.

```
// Fill in the prototype of the function writeProverb.
void writeProverb(int number)
{
    bool done=false;
    while (done==false)
    {
        if (number==1)
        {
            cout<<"Now is the time for all good men to come to the aid of their party"<<endl;
            done=true;
        }
        else if (number ==2)
        {
            cout<<"Now is the time for all good men to come to the aid of their country";
            done=true;
        }
        else
        {
            cout<<"Invalid Input"<<endl;
            cin>>number;
        }
    }
    // Fill in the body of the function to accomplish what is described above
}
```

3.



```
D:\downloads\Lab_export(2)\Lab6.1\newproverb.exe
Given the phrase:
Now is the time for all good men to come to the aid of their ____
Input the word you would like the sentence to be finished with
Please input your choice now
friends

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

Process returned 0 (0x0)   execution time : 4.798 s
Press any key to continue.
```

```
// This program will allow the user to input from the keyboard
```

```
// whether the last word to the following proverb should be party or country:
```

```
// "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.
```

```
void writeProverb(string word)
```

```
{
```

```
    cout<<"Now is the time for all good men to come to the aid of their "<<word<<endl;
```

```
}
```

```
int main()
```

```
{
```

```
    string 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 the word you would like the sentence to be finished with"
```

```
        << 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

//

//

```

```

*****

```

6.3

```
//
float computePaycheck(float rate, int time, float& gross, float& net)
{
    // Fill in the code to find gross pay and net pay
    gross=rate*time;
    net=gross -(gross*.15);

    return gross,net;
}
```

2

```
D:\downloads\Lab_export(2)\Lab6.1\paycheck.exe
Welcome to the Pay Roll Program
*****

This program takes two numbers (payRate & hours)
and multiplies them to get gross pay
it then calculates net pay by subtracting 15%
*****

Please input the pay per hour
9.5

Please input the number of hours worked
40

The gross pay is $380.00
The net pay is $323.00
We hope you enjoyed this program

Process returned 0 (0x0)   execution time : 9.549 s
Press any key to continue.
```

3 It is a pass by value

4


```

float computePaycheck(float rate, int time, float& gross, float& net)
{
    // Fill in the code to find gross pay and net pay
    gross=rate*time;
    net=gross -(gross*.15);

    cout << "The gross pay is $" << gross << endl;
    cout << "The net pay is $" << net << endl;

    return gross,net;
}

```

5

All values are the same

```

D:\downloads\Lab_export(2)\Lab6.1\paycheck.exe
Welcome to the Pay Roll Program
*****

This program takes two numbers (payRate & hours)
and multiplies them to get gross pay
it then calculates net pay by subtracting 15%
*****

Please input the pay per hour
9.50

Please input the number of hours worked
40

The gross pay is $380.00
The net pay is $323.00
We hope you enjoyed this program

Process returned 0 (0x0)   execution time : 5.394 s
Press any key to continue.

```

Source code

// This program takes two numbers (payRate & hours)

// and multiplies them to get grosspay.

```
// It then calculates net pay by subtracting 15%
```

```
// PLACE YOUR NAME HERE
```

```
#include <iostream>
```

```
#include <iomanip>
```

```
using namespace std;
```

```
// Function prototypes
```

```
void printDescription();
```

```
float computePaycheck(float, int, float&, float&);
```

```
int main()
```

```
{
```

```
    float payRate;
```

```
    float grossPay;
```

```
    float netPay;
```

```
    int hours;
```

```
    cout << setprecision(2) << fixed;
```

```
    cout << "Welcome to the Pay Roll Program" << endl;
```

```
    printDescription();           // Call to Description function
```

```
cout << "Please input the pay per hour" << endl;
```

```
cin >> payRate;
```

```
cout << endl << "Please input the number of hours worked" << endl;
```

```
cin >> hours;
```

```
cout << endl << endl;
```

```
computePaycheck(payRate, hours, grossPay, netPay);
```

```
// Fill in the code to output grossPay
```

```
cout << "We hope you enjoyed this program" << endl;
```

```
return 0;
```

```
}
```

```
// *****
```

```
// printDescription
```

```
//
```

```
// task: This function prints a program description
```

```
// data in: none
```

```

//      data out: no actual parameter altered

//

//      *****

void printDescription() // The function heading
{
    cout << "*****" << endl << endl;

    cout << "This program takes two numbers (payRate & hours)" << endl;

    cout << "and multiplies them to get gross pay " << endl;

    cout << "it then calculates net pay by subtracting 15%" << endl;

    cout << "*****" << endl << endl;
}

//      *****

//      computePaycheck

//

//      task:   This function takes rate and time and multiples them to
//              get gross pay and then finds net pay by subtracting 15%.

//      data in:  pay rate and time in hours worked

//      data out: the gross and net pay

//

//      *****

float computePaycheck(float rate, int time, float& gross, float& net)

```

```

{
    // Fill in the code to find gross pay and net pay

    gross=rate*time;

    net=gross -(gross*.15);


    cout << "The gross pay is $" << gross << endl;

    cout << "The net pay is $" << net << endl;

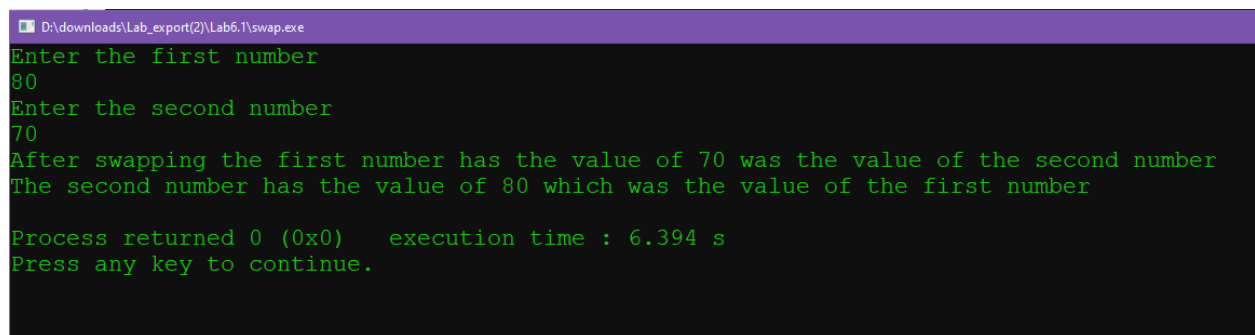

    return gross,net;

}

```

6.4 Optional 1

1/2



The screenshot shows a Windows command prompt window with a purple title bar. The title bar text is "D:\downloads\Lab_export(2)\Lab6.1\swap.exe". The command prompt has a black background with green text. The text displayed is as follows:

```

Enter the first number
80
Enter the second number
70
After swapping the first number has the value of 70 was the value of the second number
The second number has the value of 80 which was the value of the first number

Process returned 0 (0x0)   execution time : 6.394 s
Press any key to continue.

```

3

The swap parameters must be passed by value

Source Code

```
#include <iostream>
```

```

using namespace std;

void swap(float num_1,float num_2)
{
    float temp=num_1;
    num_1=num_2;
    num_2=temp;
    //do the swap

    cout<<"After swapping the first number has the value of "<<num_1<<" was the value of the
second number"<<endl;

    cout<<"The second number has the value of "<<num_2<<" which was the value of the first
number"<<endl;
}

int main()
{
    float num_1;
    float num_2;
    cout<<"Enter the first number"<<endl;
    cin >>num_1;
    cout<<"Enter the second number"<<endl;
    cin >>num_2;

```

```
    swap(num_1,num_2);  
    //swap them  
    return 0;  
}
```