

Practice 2 – OOP (String Class)

Task 01: Write a program that accepts as input a sentence in which all of the words are run together, but the first character of each word is uppercase. Convert the sentence to a string in which the words are separated by spaces and only the first word starts with an uppercase letter. For example the string "StopAndSmellTheRoses." would be converted to "Stop and smell the roses."

Task 02: Modify program file " Task02_1.cpp". The string contains programming challenges numbered 1 to onwards. Write a code to print all questions separated by one empty line like:

Programming Challenges

1. Write a function that returns an integer and accepts a pointer to a C-string as an argument. The function should count the number of characters in the string and return that number. Demonstrate the function in a simple program that asks the user to input a string, passes it to the function, and then displays the function's return value.

2. Write a function that accepts a pointer to a C-string as an argument and displays its contents backward. For instance, if the string argument is "Gravity" the function should display "ytivarG". Demonstrate the function in a program that asks the user to input a string and then passes it to the function.

3. Write a function that accepts a pointer to a C-string as an argument and returns the number of words contained in the string. For

Task 03: Write a program that has an array of at least 10 `string` objects that hold people's names and phone numbers. You may make up your own strings, or use the following:

```
"Alejandra Cruz, 555-1223"  
"Joe Looney, 555-0097"  
"Geri Palmer, 555-8787"  
"Li Chen, 555-1212"  
"Holly Gaddis, 555-8878"  
"Sam Wiggins, 555-0998"  
"Bob Kain, 555-8712"  
"Tim Haynes, 555-7676"  
"Warren Gaddis, 555-9037"  
"Jean James, 555-4939"  
"Ron Palmer, 555-2783"
```

The program should ask the user to enter a name or partial name to search for in the array. Any entries in the array that match the string entered should be displayed. For example, if the user enters "Palmer" the program should display the following names from the list:

```
Geri Palmer, 555-8787  
Ron Palmer, 555-2783
```

Task 04: Write a program that displays a simulated paycheck. The program should ask the user to enter the date, the payee's name, and the amount of the check (up to \$10,000). It should then display a simulated check with the dollar amount spelled out, as shown here:

```
Date: 11/24/2014  
Pay to the Order of: John Phillips $1920.85  
One thousand nine hundred twenty and 85 cents
```

Be sure to format the numeric value of the check in fixed-point notation with two decimal places of precision. Be sure the decimal place always displays, even when the number is zero or has no fractional part. Use either C-strings or `string` class objects in this program.

Input Validation: Do not accept negative dollar amounts, or amounts over \$10,000.