



Columbia College
Vancouver, Canada

**Introduction to Computer Science and Programming 1
CSCI120**

Chapter2: Functions

Chapter4-Lab

Note: This document has been designed and developed as part of an initiative for creating an OER (Open Education Resource) package for the course CSCI 120 at Columbia College.

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# of Students in the Group:		
Student 1	First name, last name	Student-ID
Student 2	First name, last name	Student-ID
Student 3	First name, last name	Student-ID
Student 4	First name, last name	Student-ID

Problem1

- Design and implement a function with no input parameters. The function keeps receiving a number from input (user) and adds the numbers together. The application keeps doing it until the user enter 0. Then the application will stop and print the total sum and average of the numbers the user had entered.

Problem 2

Write a function with one input parameter which is a string and does the following:

- Checks whether the input string and the its reverse is the same (like BaBa), if yes it return 1 and if false, it returns 0. It considers case-sensitivity which means (Baba and BaBa are not the same)

Problem 3

Write A function with an input parameter which is a string arithmetic statement which contains only alphabet variables and binary operations including +, -, *, / and % and checks whether the statement is a valid arithmetic statement or not. If the statement is valid, the function returns true, otherwise returns false.

- The statement might contain parenthesis as well. For instance:
 - $a+b*a+c/c\%y$
 - $(a+b)*(a/d-(a/b))$
- You can make this assumption that the variable names contain only one alphabet (like a, b, c) and cannot have more than one alphabets (like ab, temp, sum, ...)
- Remember from the lecture that 2 conditions should be satisfied in order an arithmetic operation is considered valid. Search in your lecture notes for it if you don't remember it.



Problem4

- Design and implement a function with 2 input parameters:
 - o Coefficient
 - o Exponent
 - o x
- And calculate equations in the following forms:
 - o Coefficient*x^Exponent

Problem5

- Using the function you have defined in Problem 4, write a function which receives an input parameter called “y” and calculate the value of following formula:
 - o $5x^2y - 10xy + xy - 5$

Good Luck ☺