

# Homework 2 (*Due: Sep 06*)

## PYTHON PROGRAMMING FOR DATA SCIENCE - COSC 3360

Department of Computer Science and Electrical Engineering

Fall Semester, 2022

### Exercises

Create a **New Project** for every exercise. Take a screenshot of the source code along with its output and place the **source code** and the **screenshot** in a **zipped folder** named **LastNameFirstName\_HW2**

#### Exercise 1

Implement **Newton's** algorithm for computing the square root of a positive **integer** given by the user. Use a precision (threshold) value of 0.00000001

**Note:** See slide 56 for **Newton's** algorithm

#### Exercise 2

Ask user to enter a **string**, e.g., **Computer Science**; then ask user to enter a *single* character, e.g., **e**. Pass both strings to function **myFind** and print the index at which the character appears in the string. In addition, print the number of occurrences of the character in the string

#### Exercise 3

Ask user to enter a **string**, e.g., **Computer Science is an amazing field of study**. Pass string to function **countWords** and return to the *main* program the number of words in the string

#### Exercise 4

Ask user to enter a **string**, e.g., **Computer Science**, convert it to a **list** using the **list()** function, i.e., **list(myStr)**, and pass the list to function **myToUpper**. Inside the function, convert any lower case characters to upper case and print the entire list

**Note:** Use the **ord()** function, e.g., **ord('C')** to get the ASCII value of a *single* character and the **chr()** function, e.g., **chr(67)** to get the character given the ASCII value

**Note:** Submit through **Canvas**