

## CSCI 1411: Fundamentals of Computing

### Lab 5

Due Date: **8:30 AM September 22, 2020**

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#### Goals:

- Understanding the string datatype
- Becoming familiar with various operations that can be done with string.

**Development Environment:** IDLE

#### Deliverables:

1. This lab handout with 4 screen shots (2 for part I, 2 for part II).
2. Your Python code for Part II of this lab. Name the file using the following format:  
yourlastnameFirstnameLab05b.py  
Example: If your name is Jamal Jones then you will name the file as follows:  
JonesJamalLab05b.py

How to take a **screen shot**:

- For a Windows 10: Use Snipping Tool to copy and CTRL + V to paste screen shot.
- For Mac: Shift + Command + 4 to copy and CTRL + V to paste screen shot.

#### Part I – Skill Practice (10 pts)

- Start IDLE
- Create a new file.
- Type the following code in the file. .... **Do not cut and paste.** You will learn more by typing it in.
- Remember to update the first 3 lines with your own first name, last name and the date of the lab.

```

# Your first Name
# Your Last Name
# Date: The date
# Description: Lab 5. This lab shows various operations of String datatype

def main():
    firstName = input("Please enter your first name: ")
    lastName = input("Please enter your last name: ")

    #You can calculate the size/length of the string using len() function

    length = len(firstName)
    print("length of the first name is:", length)

    length_2 = len(lastName)
    print("length of your last name is: ", length_2)

    # "+" operator is used to concatenate 2 strings

    fullName = firstName + " " + lastName
    print("Your full name is: ", fullName)

    # "*" operator is used as a repetition operator to make multiple copies of a string.

    n = int(input("Enter a number: "))
    print("Repeating your name", n, "times")
    print((firstName + " ") * n)

    #You can iterate through the characters using for loop

    print("Printing the full name using for loop")
    for ch in fullName:
        print(ch, end = "")

    #A string is a sequence of character. Each individual character can be
    #accessed by using index. In Python index starts from 0.
    #Here is an example how we can run a loop to access all characters from a string.

    print("\nPrinting the full name using indexing")
    for i in range(len(fullName)):
        print(fullName[i], end = "")

```

#Python also allows indexing from right end of a string using negative indexes.  
#Negative indexing starts from -1.  
#Here is an example how we can use negative indexing to access the characters  
#in reverse order.

```
print("\nPrinting the name in reverse order")  
for i in range(-1, -(len(fullName)+1), -1):  
    print(fullName[i], end = "")
```

#Slicing operator is used to access a contiguous sequence of characters or substring.  
#following is an example of generating username from using the first 3 characters of  
#last name combined with the first 3 characters of the first name.

```
userName = lastName[0:3] + firstName[0:3]  
print("\nYour username is: ",userName)
```

- Save the file as “YourLastNameYourFirstNameLab05a.py”
- Click Run -> Run Module
- If you get any syntax error, try to correct the syntax error.
- If no syntax error, this will redirect you to the output screen.
- Type main()
- Output will look like the following:

```
>>> main()
Please enter your first name: madhuri
Please enter your last name: debnath
length of the first string is: 7
length of your last name is: 7
Your full name is: madhuri debnath
Enter a number: 3
Repeating your name 3 times
madhuri madhuri madhuri
Printing the full name using for loop
madhuri debnath
Printing the full name using indexing
madhuri debnath
Printing the name in reverse order
htanbed iruhdam
Your username is: debmad
>>> |
```

- **Please capture 2 screenshots with your output with 2 different inputs and paste them here.**

```
Please enter your first name Kerry
Please enter your last name Gip

The length of your first name is 5
The length of your last name is 3
Your full name is Kerry Gip

Enter a number: 2
Repeating your name 2 times
Kerry Kerry

Printing your name in a loop
Kerry Gip

Printing the full name using indexing
Kerry Gip

Printing your name in reverse order
piG yrreK

Your username is: GipKer
>>>
```

Ln: 72 Col: 4

```
Python 3.8.5 Shell
File Edit Shell Debug Options Window Help
Python 3.8.5 (tags/v3.8.5:580fbb0, Jul 20 2020, 15:57:54) [MSC v.1924 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
== RESTART: C:/Users/kerry/Python/Classwork/CS 1410/CS1410 Lab/Lab05 String.py =
Please enter your first name Viet
Please enter your last name Tran

The length of your first name is 4
The length of your last name is 4
Your full name is Viet Tran

Enter a number: 6
Repeating your name 6 times
Viet Viet Viet Viet Viet Viet

Printing your name in a loop
Viet Tran

Printing the full name using indexing
Viet Tran

Printing your name in reverse order
naT teiV

Your username is: TraVie
>>>
```

## Part II: Generate username and email address (15 Points)

- In this part, you will generate username and email address from first name and last name.
- Create a python program and save the file as “lastnameFirstnameLab05b.py”. The program does the following things:
  - Ask user for First Name
  - Ask user for Last Name
  - Generate the username by using the last name concatenated with the first character of first name. For example: if your first name is “Madhuri” and Last name is “Debnath”, then user name will be “debnathm”.
  - Generate the email address in the following format: [firstname.lastname@ucdenver.edu](mailto:firstname.lastname@ucdenver.edu). For example: if your first name is “Madhuri” and Last name is “Debnath”, then user name will be “madhuri.debnath@ucdenver.edu”.
  - All characters in your username and email address will be in lowercase format. Please use lower() function to convert a string into lowercase format. For example: “Madhuri”.lower() will be evaluated to “madhuri”.
- The sample input and output will look like the following:
  - Sample input/output 1

```
Please enter your first name:madhuri
Please enter your last name:debnath
Your username is:  debnathm
Your email is:  madhuri.debnath@ucdenver.edu
```
  - Sample input/output 2:

```
Please enter your first name:John
Please enter your last name:Doe
Your username is:  doej
Your email is:  john.doe@ucdenver.edu
```
- **Please capture 2 screenshots with your output with 2 different inputs and paste them here.**
- **Please submit your code on Canvas.**

```
File Edit Shell Debug Options Window Help
Python 3.8.5 (tags/v3.8.5:580fbb0, Jul 20 2020, 15:57:54) [MSC v.1924 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\kerry\Desktop\Fall 2020\CS 1411 - Foundations Lab\GipKerryLab005.py
Please enter your first name Kerry
Please enter your last name Gip

Your username is: gipk
kerry.gip@ucdenver.edu
>>>
```

```
= RESTART: C:\Users\kerry\Desktop\Fall 2020\CS 1411 - Foundations Lab\GipKerryLab005.py
Please enter your first name Viet
Please enter your last name Tran

Your username is: tranv
viet.tran@ucdenver.edu
>>>
```