CSCI 1411: Fundamentals of Computing
Lab 6
Due Date: October 6, 2023

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Goals:

- Use of string datatype.
- Use of f string to format output.
- Use of string operations like indexing and concatenating.

Development Environment: IDLE

Deliverables:

1) This completed document with required screen shots and algorithms.
2) Python file created for the first and second parts of the lab. Name the file using the following format: `lastnameLab06Part1.py` and `lastnameLab06Part2.py`.

How to take a **screen shot**:

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

Part I – Generate username and email address

Problem Statement: Write a Python program to generate username and email address from first name and last name.

Algorithm (Pseudocode):

1. Display 'What is your first name?'
2. Input first name of the user (call it first_name).
3. Display 'What is your last name?'
4. Input last name of the user (call it last_name).
5. Convert all the letters of the first name to lowercase letters (see below).
6. Convert all the letters of the last name to lowercase letters.
7. Generate the username by concatenating the last name with first character of the first name (call this username)
8. Display the username.
9. Generate email address by concatenating the first_name, dot, last_name, and '@ucdenver.edu'(call this email_address)
10. Display the email_address address.

Note: Letters in first_name and last_name can be converted to lower case letters by using the `lower` function as follows:

```
first_name = first_name.lower()
last_name = last_name.lower()
```

Test your program using the following data:

Input		Output	
First Name	**Last Name**	**Username**	**Email address**
Jack	Smith	smithj	jack.smith@ucdenver.edu
Mary	Davis	davism	mary.david@ucdenver.edu

Run your program and take a screen shot of your result and paste it in the box below:

Screen Shot 1

```
>>>
= RESTART: C:\Users\Brandon\workspace\bachelors\sem-1\fund-of-computing\BrandonP
erez\completed-assignments\lab-6\perezBrandonLab6Part1.py
>>> main()
First name: Jack
Last name: Smith

Your username   :  smithj
Your University of Colorado Denver email   :  jack.smith@ucdenver.edu
>>> main()
First name: Mary
Last name: David

Your username   :  davidm
Your University of Colorado Denver email   :  mary.david@ucdenver.edu
>>>
```

Part II – Cost Calculator

Problem Statement: Write a program to calculate the cost of an item for billing purpose. It will ask for the following:

1. Name of the item
2. Quantity of the item
3. Price of the item
4. Sales tax rate

It will perform the following tasks:

1. Display name of the item
2. Display quantity of the item
3. Display price of the item
4. Calculate and display total amount (quantity * price)
5. Calculate and display sales tax amount (total amount * sales tax rate / 100)
6. Calculate and display grand total (total amount + sales tax amount

Note: Use the f string to display all numerical data using two decimal places. Include $ sign before the total amount, sales tax amount and grand total.

Algorithm (Pseudocode) (write your answer in the box below):

```
Prompt the user for Name of Item, Quantity of item, Price, and Sales Tax
Store each of these in a respective variable (itemName, quantity, price, taxRate)
Calculate the Subtotal and store in a respective variable (subtotal)
Calculate the Sales Tax and store in a respective variable (tax)
Calculate the Total and store in a respective variable (total)
Output quantity, name, and price
Output subtotal
Output tax
Output price
```

Test your program using the following data:

Input				Output		
Name	Quantity	Price	Sales Tax Rate	Total Amount	Sales Tax Amount	Grand Total
Shirt	2	12.99	7.0%	$25.98	$1.82	$27.80
Socks	12	1.99	6.5%	$23.88	$1.55	$25.43

Note: Only calculated values are shown as output in the above table. You need to display all the required outputs.

Sample I/O

```
>>> main()
    Enter item name: shirt
    Enter quantity of the item: 2
    Enter the price of the item: 12.99
    Enter the sales tax rate: 7
    Item name: shirt
    Quantity: 2
    Price: $12.99
    Total amount: $25.98
    Sales tax amount: $1.82
    Grand total: $27.80
```

Run your program and take a screen shot of your result and paste it in the box below:

Screen Shot 2

```
>>>
= RESTART: C:\Users\Brandon\workspace\bachelors\sem-1\fund-of-computing\BrandonP
erez\completed-assignments\lab-6\perezBrandonLab6Part2.py
>>> main()
Enter item name: Shirt
Enter quantity of the item: 2
Enter the price of the item: 12.99
Enter the sales tax rate: 7
Item name: Shirt
Quantity: 2
Price: 12.99
Total amount: $25.98
Sales tax amount: $1.82
Grand total: $27.80
>>> main()
Enter item name: Socks
Enter quantity of the item: 12
Enter the price of the item: 1.99
Enter the sales tax rate: 6.5
Item name: Socks
Quantity: 12
Price: 1.99
Total amount: $23.88
Sales tax amount: $1.55
Grand total: $25.43
>>>
```

Every program should have the following comment block at the top. Make sure to fill in your name, class with section number, due date, brief description of your program, and status of your program:

```
#
# Name:
# Class: CSCI 1411-00X
# Due Date:
# Description:
# Status:
```

Rubric for Lab 6:

Criteria	Rating
Part I (Screen shot 1)	Screen shot included – 5 points No screen shot included – 0 points
Part I: Python Program	Prompts for and read in first name – 5 points Reads in the first name without prompt – 2 points Does not read in the first name – 0 points
Part I: Python Program	Prompts for and read in last name – 5 points Reads in the last name without prompt – 2 points Does not read in the last name – 0 points
Part I: Python program	Converts first name and last name to lower case – 5 points Does not convert first name and last name to lower case – 0 points
Part I: Python Program	Generates the username using correct format – 5 points Does not generate the username in correct format – 0 points
Part I: Python Program	Displays the username with text message – 5 points Displays the username without appropriate text message – 2 points Does not display the username – 0 points
Part I: Python Program	Generates the email address using correct format – 5 points Does not generate the email address in correct format – 0 points
Part I: Python Program	Displays the email address with text message – 5 points Displays the email address without appropriate text message – 2 points Does not display the email address – 0 points
Part II (Screen shot 2)	Screen shot included – 5 points No screen shot included – 0 points
Part II: Algorithm:	Algorithm is included – 5 points Algorithm is not included – 0 points
Part II: Python Program	Prompts for and read in the item name – 5 points Reads in the item name without prompt – 2 points Does not read in the item name – 0 points
Part II: Python Program	Prompts for and read in the quantity – 5 points Reads in the quantity without prompt – 2 points Does not read in the quantity – 0 points
Part II: Python Program	Prompts for and read in the price – 5 points Reads in the price without prompt – 2 points Does not read in the price – 0 points
Part II: Python Program	Prompts for and read in the sales tax rate – 5 points Reads in the sales tax rate without prompt – 2 points Does not read in the sales tax rate – 0 points

Part II: Python Program	Correctly calculate the total amount – 5 points Does not calculate the total amount – 0 points
Part II: Python Program	Displays the total amount using f string with precision of 2 decimal places – 5 points Displays the total amount without using correct format – 2 points Does not display total amount – 0 points
Part II: Python Program	Correctly calculate the tax amount – 5 points Does not calculate the tax amount – 0 points
Part II: Python Program	Displays the tax amount using f string with precision of 2 decimal places – 5 points Displays the tax amount without using correct format – 2 points Does not display tax amount – 0 points
Part II: Python Program	Correctly calculate the grand total – 5 points Does not calculate the grand total – 0 points
Part II: Python Program	Displays the grand total using f string with precision of 2 decimal places – 5 points Displays the grand total without using correct format – 2 points Does not display grand total – 0 points
Total Points	100