CS 115 - Introduction to Programming in Python

Lab 01

Lab Objectives: Input/output, data, expressions, selection statements.

Q1: Write a program `Lab01_Q1.py` to input the lengths of the sides of a rectangle. Then the program should print the following:

- The area (3 decimal places) and the perimeter (2 decimal places) of the rectangle
- The length of the diagonal (4 decimal places)
- Also their exact values without formatting

Note that the diagonal d of the rectangle is computed as

$$d = \sqrt{w^2 + l^2}$$

where `l` and `w` are the length and width of the rectangle, respectively.

Sample Run:

```
Enter the width of a rectangle: 3.45

Enter the height of a rectangle: 7.65
area is 26.393, perimeter is 22.20, diagonal is 8.3920
exact area is 26.392500000000002
exact perimeter is 22.200000000000003
exact diagonal is 8.39196043841962
```

Q2: Write a program `Lab01_Q2.py` to input three names and display the name that comes first in lexicographic ordering.

Sample Run:	Sample Run:
Enter the first name: **Oya** Enter the second name: **Can** Enter the third name: **Ali** Ali comes first in lexicographic ordering.	Enter the first name: **Can** Enter the second name: **Ali** Enter the third name: **ali** Ali comes first in lexicographic ordering.

Q3: Write a program `Lab01_Q3.py` to input a string containing the date of a birthday in the following format: dd/mm, where dd and mm indicate the day and the month, respectively. Assume that the day and month are always 2 digits. If the month is before the current month, display 'Birthday passed'. If the month is the current month, print the number of days until the birthday (unless it has not already passed). If the month is after the current month, display the number of months until the birthday. Assume that the current date is 30/09.

Sample Run:	Sample Run:
Enter date of birth: **20/12** 3 months until birthday	Enter date of birth: **15/03** Birthday passed
Sample Run: Enter date of birth: **07/09** Birthday passed	**Sample Run:** Enter date of birth: **01/10** 1 months until birthday
Sample Run: Enter date of birth: **30/09** 0 days until the birthday	