**Python Lab 2a: Input and output**

**Before you do this lab, you should review Section 2.6 in the text.**

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| 1. Ask the user to enter their name. Then say hello and repeat their name. | In Python, the input() function is used to accept input. The result is stored as a string type.  **x = input ('what is your name?')**  **print ('Hello ' + name)** |
| 2. Ask the user to enter their age. Print out their age 5 years from now. | To be able to add 5 to the user input, it has to be converted to an integer.  x = int(input ('what is your age?')  print (x + 5) |
| 3. Use concatenation and str() to print a message telling the user how old they will be in 5 years. | When you are printing out a string message and want to concatenate a number onto the string, use str() to convert a numeric value to a string.  If the user entered 27, your output should be similar to the following:  **In 5 years you will be 32 years old** |
| 4. Ask the user to enter in values that might be floating point. | Let's calculate the amount of pay an hourly worker will get for working in a week. Ask the user to enter in the number of hours worked, convert this to a floating point value, and store this in a variable.  **Enter the number of hours worked: 33.7**  Ask the user to enter in their hourly wage, but not with the $ , convert this to a floating point value, and store the result in a variable.  **Enter your hourly wage, without the $: 11.32** |
| 5. Print out the result of the calculation in a single print statement, using concatenation. | Calculate their weekly paycheck and print out a message, using one print statement, and using concatenation.  **Your gross pay this week is $ 381.484** |
| 6. If Time | If you have time, search on the web for a way to round to 2 decimal places. Change your output to show just 2 places after the decimal. |

To summarize, fill in the blanks:

The input function returns a value of type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

To use this value in mathematical calculations, you need to convert it to type \_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_.

To concatenate a number to a string, such as in a print statement, use the function \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Python Lab 2b: Defining functions**

**Before you do this lab, you should review Section 2.6 in the text.**

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| 1. Define a function that returns the average of 3 numbers. | The def command is used to define a function.  **def average(num1, num2, num3):**  **return (num1 + num2 + num3)/3**  **print (average(7, 5, 9))**  **print (average(6, 6, 7))** |
| 2. Move the function definition after the print statements. | **print (average(7, 5, 9))**  **print (average(6, 6, 7))**  **def average(num1, num2, num3):**  **return (num1 + num2 + num3)/3**  Will this script run? Why do you think this is so? |
| 3. Print out the value of a parameter outside a function definition. | **def average(num1, num2, num3):**  **return (num1 + num2 + num3)/3**  **print (average(7, 5, 9))**  **print (average(6, 6, 7))**  **print (num1)**  Will this script run? Why do you think this is so? |
| 4. Define a function that converts a dog's age into human years. | One way to calculate a small dog's age is to use this rule:  dog's age in human years = 24 + (dog's age - 2) x 4  Define a function that converts a dog's age into human years.  Test your function on various values. Print out a message similar to this:  **5 dog years is equivalent to 36 human years.**  **11 dog years is equivalent to 60 human years.** |
| 5. Calculate the price of an ice cream cone. | An ice cream stand bases the price of its cones on this rule.  Price = number of scoops x $1.15 + $2.25  Define a function that calculates the price of a cone.  Ask the user to enter in the number of scoops. Print out the price.  Below is sample output:  **Ice cream cone price calculator:**  **How many scoops would you like? 4**  **A 4-scoop cone will cost $6.85** |