Lab 1 Chatbots: Variables, Assignments, Conditional Statements and your First Python Program!

Learning Outcomes: By the end of this lab, you will:

- Successfully write a program in Python using the Google Colab editor/interpreter.
- Implement professional practices in coding such as thorough commenting and good variable naming.
- Receive user inputs and assign them to variables for later use.
- Use formatted outputs to ask for inputs and display the results of program calculations.
- Use conditional statements to return different messages to users based on their inputs.

Assignment: In this homework, you will write your first meaningful Python program that asks the user for input and then displays some messages based on that input. Write your programs in Google Colab. Make sure that your program is appropriately commented.

1. Begin by opening a new Colab notebook named `lab1`.
2. Ask the user for their name (use the `input` function) and store the result into a variable called `name`. Then print three different messages that say hello to the user in three different languages (your choice).
3. Save and run your program. For example, if the COA Mascot (whose name, we assume, is Black Fly) were to run their program, the result might look like the following:

```
What is your name? Black Fly
Hello, Black Fly!
¡Hola, Black Fly!
Ciao, Black Fly!
```

4. Now modify your program to ask the user for their (integer) age in years, and store the result into a variable called `age`. Then print a message indicating the minimum number of days the user has been alive. Hint: The `input()` function returns a string (a sequence of characters), so:
   - to compute the number of days, you will first need to convert that string to an integer using the `int()` function;
   - then to pass that integer number of days to the `print()` function, you'll need to convert the number of days to a string using the `str() function`.

   So, code to print a message to the user might look like:

```
age = input("What is your age in years? ")
print("You are at least " + str(int(age) * 365) + " days old!")
```

5. Next, modify your program to write the user a message about whether they are eligible to fun for the highest office (e.g. the presidency) in a country (You choose the country!) based on their age.
6. Save and run your program. For example, if I were to run my program, the result might look like the following:

```
What is your name? Black Fly
Hello, Black Fly!
¡Hola, Black Fly!
Ciao Black Fly!
What is your age in years? 21
You are at least 7665 days old!
Unfortunately, you are not eligible to run for president in the United States until age 35.
```

7. Now modify your program to ask the user the average number of hours they sleep each night, and store the result into a variable called `timeSleep`. Then print a message indicating the number of hours that a student is expected to sleep each week (assuming they sleep the same amount of time 7 nights a week).
8. Save and run your program. For example, if I were to run my program, the result might look like the following:

```
What is your name? Black Fly
Hello, Black Fly!
¡Hola, Black Fly!
Ciao Black Fly!
What is your age in years? 21
You are at least 7665 days old!
Unfortunately, you are not eligible to run for president in the United States until age 35.
How many hours do you sleep on average each night? 8
You sleep 56.0 hours each week!
```

9. Now ask the user to enter their favorite quote, and, separately, the author of that quote, and then print a message indicating the number of characters (including spaces and punctuation) in that quote. Hint: the `len()` function will return the number of characters present in a given string.

   For example:

   ```
   What is your favorite quote? Be yourself; everyone else is already taken
   To whom is this quote attributed? Oscar Wilde
   The number of characters in this quote by Oscar Wilde is 43.
   ```

10. Congratulations, you've finished your first chatbot that interacts with a user. What are some of the things that we rely on the user to get right when interacting with our chatbot? What do we have control over in the program? What is outside of our control?

Submitting: When finished, download your program as `lab1.py` (i.e., as a stand-alone Python program, not as a Python notebook having extension `.pynb`). Then upload in Google Classroom.

Acknowledgements: This lab is a modified version of the lab developed by Bates colleague's in the Digital and Computational Studies Department: Carrie Diaz Eaton, Barry Lawson, and Anelise H. Strout.