SI 507 Lab #1
Sections 005/105

Tuesday, August 30

Today's Plan

Lab #1

- Introductions
  - GSI
  - Lab expectations
- VS Code/Jupyter Notebooks
- Lab Exercise
  - Functions
- HW Assignment 1

About Me

Patrick Lukowicz

- lukowicz@umich.edu
- MSI Student (Data Science)
- Background in teaching, business analysis and project management

Course Info

SI 507

- IDE (VS Code)
- Piazza
- Office Hours
  - Group: Wednesdays, 10 AM-12 PM
  - Individual: Mondays, 12-1 PM

715 N. University “Loft”

Outside of Office Hours

- Post in Piazza
- Email me your code and describe the problem
  - If you do this, please put SI 507 in the subject line!
- Work with a classmate!

Information About Labs

- Recordings will be available on Canvas.
- Answers to lab exercises will be available on Canvas at the end of the week.
- Labs will be most helpful after you have attended the lecture for the week.

Lecture Takeaways

- Don’t worry about memorizing things!
- Make yourself a cheat sheet.
- Read through code and try to predict the output.
- Talk through code if you are stuck.

Today’s topics:

- User inputs
- Functions

Python Functions

Built-In Functions

https://www.w3schools.com/python/python_ref_functions.asp

User-Defined Functions

```
1  def average(x, y):
2      return (x + y)/2
3  print(average(4, 3))
```

*User-defined functions typically include docstrings.

Jupyter Notebooks

Jupyter Notebook

Install the classic Jupyter Notebook with:

```
pip install notebook
```

To run the notebook:

```
jupyter notebook
```

Lab Exercise

Exercise

- Spend 10 minutes ON YOUR OWN working the exercise.
- Please do not consult with those around you (you eventually will, don’t worry!)
- You can Google whatever you want!

Exercise

Write a function named CelsiusToFahrenheit.

Your function should:

- Ask the user for a temperature in degrees Celsius
- Convert the temperature to Fahrenheit
- Print the result for the user (no return statement)
- The formula for conversion is (°C × 9/5) + 32 = °F
- Check:
  - 0°C should be 32°F
  - 100°C should be 212°F

Exercise, cont.

Continue working on with a partner.

I’ll come around and give hints, if needed.

Exercise, cont.

Share your answer! Go to

https://bit.ly/3AXZZ8D

Exercise Solution

```
def CelsiusToFahrenheit():

    temp = input('Input a temperature, in degrees Celsius, that you want to convert to Fahrenheit: ')

    while True:
        try:
            temp = float(temp)
            break
        except:
            temp = input('You must input a numerical value, e.g., 24. Please try again: ')

    fahrenheit = (temp * 9/5) + 32

    print(f'{temp} degrees Celsius is equal to {fahrenheit} degrees Fahrenheit.')

CelsiusToFahrenheit()
```

Homework

Tic-Tac-Toe

Homework 1 should be available now in Canvas.

DUE DATE: Sep 12 at 7:59pm