CS 114 Tutorial 1

Sept 12 2025

Goals for this Week:

- Submit Assignment 00
- Look at assignment 01 (releases friday evening)
- Understand how to use operations in python (* , / , + , - , **)
- Know how to use import math (math.pi, math.sqrt)
- Understand how to write functions
- Know how to write docstrings and tests for functions

If you have already finished assignment 0 try the following:

Through python, determine the following and display them as integers

8^4/(50*31) = ?

(3+9) x √5 = ?

Create a function that calculates the cost of an object with tax given the base price and test it using print. (Tax is 13% for every $1)

def tax(price):

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Common errors

```
# A
print (3 ^ 2 / 6)
# B
print (5 ** (3+1) / (2-2))
# C
print (6 * 5 + 9 / 2)
# D
print (5(3+1))
```

Which of the above will run?

A. B. C. D.

Common errors

```
def force(mass, accel):
    print (m*a)

force(5,3)
```

Will this code run?

A. yes

B. no

C. idk

Common errors

```
def force(mass, accel):
    return (mass*accel)

F = force(5,3)
print(F)
```

Will this code run?

A. yes

B. no

C. idk

Testing

```
# checking that the value of 10/3
# is approximately 3.333

assert 10/3 == 3.3333, "10/3 test"
```

Will this test give an assert error?

A. yes B. no C. idk

Testing

```
# checking that the value of 10/3
# is approximately 3.333

assert (abs (10/3 - 3.3333) < 0.0001, "10/3 test")
```

Will this test give an assert error?

A. yes B. no C. idk

Docstrings

- Gives information about what the function does
- Write it as of you are giving the function instructions

Which would you choose to use to describe the follow:

```
def area_garden(l, w):
```

A. """Computes the area of the garden using it's length and width"""

B. """Return the area of a garden with dimensions l and w"""

Given the area of a circle, write a function that will find its radius. Using this radius, write a function that will determine the circumference.

```
def find_radius(area):

def find_circumference(area):
```

Hint: you will need to use the radius function within your next function.

radius r

$C = 2\pi r$

$A = \pi r^2$