

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

$$8^4/(50*31) = ?$$

$$(3+9) \times \sqrt{5} = ?$$

Solutions found in
Tutorial 1 solns.ipynb

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 if you are giving the function instructions

Which would you choose to use to describe the following:

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

A. `"""Computes the area of the garden using its 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):
```

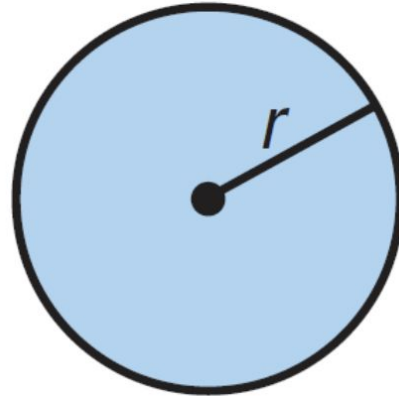
```
    def find_circumference(area):
```

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

radius r

$$C = 2\pi r$$

$$A = \pi r^2$$



Solutions found in
Tutorial 1 solns.ipynb