**Python Notes**

Project ideas:

* Vacation planner – choose the best vacation for a given amt of money
* Most overpaid football/basketball coach
* Homecourt advantage – free throw shooting statistics

Help: help(print)

**Set variable**

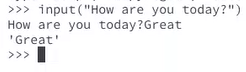
favorite\_color = 'green'

**Call variable**

print("The color",(favorite\_color),"is my favorite!")

**INPUTS**

Input(“how are you today?”)



Store input as a variable

favorite\_color = input("What is your favorite color? ")

**DATA Types**

Int(“11”) = 11

Float (“11”) = 11.0

Float (11) = 11.0

Int(11.9) = 11

23/3 = 7.66666

23//3 = 7

‘I can\’t understand’

“I can’t understand”

.upper() – all uppercase

.lower() – all lower

.title() – capitalize first letter of each word

= used for assigning

== used for comparison

!= used to compare (not equal)

# comment

**Example**

name = input("Please enter your name: ")

number = input("Please enter a number: ")

# TODO: Make sure the number is an integer

number = int(number)

# TODO: Print out the User's name and the number entered,

# making sure the two statements are on separate lines of output.

print("Hello, {}!\nThe number {}...".format(name, number))

# TODO: Compare the number the user gave with the different

# FizzBuzz conditions.

# \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

# If the number is divisible by 3, print "is a Fizz number."

# If the number is divisible by 5, print "is a Buzz number."

# If the number is divisible by both 3 and 5, print "is a FizzBuzz number."

# Otherwise, print "is neither a fizzy or a buzzy number."

# \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

# TODO: Define variables for is\_fizz and is\_buzz that stores

# a Boolean value of the condition. Remember that the modulo operator, %,

# can be used to check if there is a remainder.

is\_fizz = number % 3 == 0

is\_buzz = number % 5 == 0

# Using the variables, check the condition of the value, and print the necessary

# string

if is\_fizz and is\_buzz:

print("is a FizzBuzz number.")

elif is\_fizz:

print("is a fizz number.")

elif is\_buzz:

print("is a buzz number.")

else:

print("is neither a fizzy or a buzzy number.")

Def = function

**FUNCTION CODE**

Def yell(text):

Text = text.upper()

Number\_of\_chars = len(text)

Result = text + “!” \* (number\_of\_chars // 2)

Print(result)

Yell(“you are doing great”)

Yell(Don't repeat yourself. keep things DRY)

Yell(Don't forget to ask for help)

**SMELLY CODE**

praise = "You are doing great"

praise = praise.upper()

number\_of\_characters = len(praise)

result = praise + "!" \* (number\_of\_characters // 2)

print (result)

advice2 = "Don't repeat yourself. keep things DRY"

advice2 = advice2.upper()

number\_of\_characters = len(advice2)

result = advice2 + "!" \* (number\_of\_characters // 2)

print (result)

advice = "Don't forget to ask for help"

advice = advice.upper()

number\_of\_characters = len(advice)

result = advice + "!" \* (number\_of\_characters // 2)

print (result)

**Exceptions/IF example**

def split\_check(total, number\_of\_ppl):

if number\_of\_ppl <= 1:

raise ValueError ("More than 1 person is required to split the check")

return math.ceil(total / number\_of\_ppl)

try:

total\_due = float(input("What is the total? "))

number\_of\_ppl = int(input("How many people? "))

amount\_due = split\_check(total\_due, number\_of\_ppl)

except ValueError as err:

print("oh,no!!!! That's not a valid value. Please try again....")

print("({})".format(err))

else:

print("each person owes ${}".format(amount\_due))

**WHILE LOOP example**

password = input("please enter your super secret password: ")

attempt\_count = 1

while password != 'slim shady':

if attempt\_count = 3:

sys.exit("too many attempts")

password = input("Invalid password, please try again: ")

attempt\_count += 1

print("Welcome to Detroit!!")

**TICKET APP example**

import math

TICKET\_PRICE = 10

tickets\_remaining = 100

# output how many tickets remain using tickets\_remaining available

while tickets\_remaining >= 1:

print("there are {} tickets remaining.".format(tickets\_remaining))

# gather user's name and assign it to a variable

user\_name = input("Please enter your first name: ")

# prompt user by name and ask how many tickets they would like

num\_tix = input("Hello {}, there are {} tickets remaining. How many would you like: ".format(user\_name,tickets\_remaining))

try:

num\_tix = int(num\_tix)

if num\_tix > tickets\_remaining:

raise ValueError("there are only {} tickets remaining".format(tickets\_remaining))

except ValueError as err:

print("please enter a valid number of tickets to purchase.")

# expect a ValueError

num\_tix = int(num\_tix)

# calculate the price (number of tix x price) and assign it to a variable

else:

tix\_cost = num\_tix \* TICKET\_PRICE

# output the price to the screen

print("Your total cost is $ {}".format(tix\_cost))

# prompt user if they want to proceed. Y/N?

decision = input("Would you like to purchase {} tickets? Y/N ".format(num\_tix))

# if Y,

if decision.upper() == "Y":

# print out to the screen "SOLD! The tickets are yours!! We'll see you Saturday!!!"

print("SOLD! The tickets are yours!! We'll see you Saturday!!!")

# declare the number of tix remaining after purchase

tickets\_remaining -= num\_tix

#otherwise....

else:

print("Thanks for browsing {}".format(user\_name))

# Thank them by name