**Math Module**:

math.ceil(*x*) returns the smallest integer greater than or equal to x

math.floor(*x*) returns the largest integer less than or equal to x

math.pi returns value of PI

**Random Module**:

random.random() returns random value less than 1 e.g. 0.88238281

random.choice(*list*) returns random element inside list

random.randint(*start,end*) returns random integer

random.choices(sequence, weights=None, cum\_weights=None, k=1)

returns multiple random elements from the list with replacement

random.randrange(start,end) return random number in between two numbers

# a)

str1 = 'Wednesday Thursday Friday'

new\_string = ''

index = 0

while index < len(str1):

    if str1[index].isupper():

        new\_string = new\_string + str1[index]

    index = index + 1

new\_string = new\_string + '!?!'

# It grabs every upper case letter inside the string of characters to combine to a string

'''

print(new\_string)

-> WTF!?!

'''

# b)

str1 = 'Wednesday Thursday Friday'

new\_string = ''

index = 0

while index < len(str1):

    if str1[index].isupper():

        new\_string = str1[index] + new\_string

    index = index + 1

new\_string = new\_string + '!?!'

print(new\_string)

print([object, ...], sep=' ', end='\n', file=sys.stdout)

**Built-in Modules**:

pow(*x,y*) returns *x* to power *y*

round(x[, n]) returns the floating point value *x* rounded to *n* digits after the decimal point. If *n* is omitted, it defaults to zero.

int([number|string[, base]]) converts a number or string to an integer. If no arguments are given, returns 0.

float([x]) converts a string or number to floating point

import random

randomNum = random.randint(1,100)

# print({randomNum})

def a():

    user\_guess = int(input('Choose an integer between 1 to 100: '))

    while user\_guess!=randomNum:

        print('Too bad - please try again!')

        user\_guess = int(input('Choose an integer between 1 to 100: '))

    print("Well Done - you guessed it!")

def b():

    user\_guess = int(input('Choose an integer between 1 to 100: '))

    while user\_guess!=randomNum:

        if user\_guess < randomNum:

            print('Too Low - Please Try Again!')

        else:

            print('Too High - Please try again!')

        user\_guess = int(input('Choose an integer between 1 to 100: '))

    print("Well Done - you guessed it!")

def c():

    play\_again = "y"

    while play\_again!="n":

        randomNum = random.randint(1,100)

        print(randomNum)

        user\_guess = int(input('Choose an integer between 1 to 100: '))

        while user\_guess!=randomNum:

            if user\_guess < randomNum:

                print('Too Low - Please Try Again!')

            else:

                print('Too High - Please try again!')

            user\_guess = int(input('Choose an integer between 1 to 100: '))

        print("Well Done - you guessed it!")

        # Next Round

        play\_again = input("Would you like to play again? [y/n]: ")

    print('bye bye!')

# a() or b() or c()

c()

* Remember to always run through the code step by step.
* Think where to put loop responses. Usually they are at the end and outside the loop.
* Make sure to use **int(input())** when dealing with numbers!

numbers = [7,8,2,0,1,6,3,4]

numSum = 0

for num in numbers:

    numSum+=num

print(numSum)

print(sum(numbers))

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# can also use range(start, end[,step])

temperature = int(input("What is the temperature? "))

if temperature >= 40:

    print("Way too hot - Stay Inside!")

elif temperature >= 30:

    print("Hot - Beach Time!")

elif temperature >= 20:

    print('Lovely day - how about a picnic!?!')

else:

    print("Way too cold - stoke up the fire!")