1.How many seconds are in an hour? Use the interactive interpreter as a calculator and multiply the number of seconds in a minute (60) by the number of minutes in an hour (also 60).

sol. 60

2. Assign the result from the previous task (seconds in an hour) to a variable called seconds\_per\_hour.

3. How many seconds do you think there are in a day? Make use of the variables seconds per hour and minutes per hour.

seconds\_per\_hour = 60 \* 60

4. Calculate seconds per day again, but this time save the result in a variable called seconds\_per\_day

seconds\_per\_day = seconds\_per\_hour \* 24

5. Divide seconds\_per\_day by seconds\_per\_hour. Use floating-point (/) division.

seconds\_per\_day / seconds\_per\_hour

6. Divide seconds\_per\_day by seconds\_per\_hour, using integer (//) division. Did this number agree with the floating-point value from the previous question, aside from the final .0?

seconds\_per\_day // seconds\_per\_hour

7. Write a generator, genPrimes, that returns the sequence of prime numbers on successive calls to its next() method: 2, 3, 5, 7, 11, ...

def genPrimes():

primes = [2]

yield 2

num = 3

while True:

is\_prime = True

for p in primes:

if p \* p > num:

break

if num % p == 0:

is\_prime = False

break

if is\_prime:

primes.append(num)

yield num

num += 2 # Check only odd numbers

# Example usage:

prime\_generator = genPrimes()

print(next(prime\_generator)) # Output: 2

print(next(prime\_generator)) # Output: 3

print(next(prime\_generator)) # Output: 5

print(next(prime\_generator)) # Output: 7