**Python Assignment 15**

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**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).**

To calculate the number of seconds in an hour, we can multiply the number of seconds in a minute (60) by the number of minutes in an hour (60).

Using the Python interactive interpreter, we can perform this calculation as follows:

>>> 60 \* 60  
3600  
Therefore, there are 3600 seconds (about 1 hour) in an hour.

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

>>> seconds\_per\_hour.=60\*60

>>> seconds\_per\_hour

3600

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

>>> minutes per hour.=24\*60

>>> seconds per hour=60\*minutes per hour

>>> seconds\_per\_hour

86400

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

seconds\_per\_day=60\*24\*60

seconds\_per\_day

86400

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

>>> seconds\_per\_day = 24 \* 60 \* 60

>>> seconds\_per\_hour = 60 \* 60

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

24.0

**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 = 24 \* 60 \* 60

>>> seconds\_per\_hour = 60 \* 60

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

24

**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:

for prime in primes:

if num % prime == 0:

break

else:

primes.append(num)

yield num

num += 2

primes = genPrimes()

print(next(primes)) # prints 2

print(next(primes)) # prints 3

print(next(primes)) # prints 5

print(next(primes)) # prints 7

print(next(primes)) # prints 11