**ASSIGNMENT 15**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***Question 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).**

**Answer 1:**

In 1 hour, there are 60 minutes. In 1 minute, there are 60 seconds

Hence In 1 hour, there are 3600 seconds

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**Answer 2:**

define variable as

seconds\_per\_hour = 3600

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**Answer 3:**

seconds\_per\_minute = 60

minutes\_per\_hour = 60

Total\_hours\_per\_day = 24

Therefore

Seconds\_per\_day = ( Total\_hours\_per\_day ) X ( minutes\_per\_hour ) X ( seconds\_per\_minute )

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

**Answer 4:**

seconds\_per\_day = ( Total hours\_per\_day ) X ( minutes\_per\_hour ) X ( seconds\_per\_minute )

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

**Answer 5:**

seconds\_per\_hour = minutes\_per\_hour X seconds\_per\_minute

seconds\_per\_day / seconds\_per\_hour

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***Question 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?**

**Answer 6:**

seconds\_per\_minute = 60

minutes\_per\_hour = 60

Total\_hours\_per\_day = 24

seconds\_per\_day = ( Total\_hours\_per\_day ) X ( minutes\_per\_hour ) X ( seconds\_per\_minute )

seconds\_per\_day

seconds\_per\_hour = minutes\_per\_hour X seconds\_per\_minute

seconds\_per\_hour

hours\_per\_day = seconds\_per\_day // seconds\_per\_hour

hours\_per\_day

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

**Answer 7:**

def primenumber():

primes = [ 2, 3, 5, 7, 11 ]

def isprime(x):

if x in primes:

return True

for p in primes:

if x % p == 0:

return False

primes.append(x)

return True

num = 1

while True:

num += 1

if isprime(num):

next = num

yield next

num = next

primeNumber = primenumber()

for i in range(189):

print(primeNumber.\_\_next\_\_())

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