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

To calculate the number of seconds in an hour, you can multiply the number of seconds in a minute (60) by the number of minutes in an hour (60) using the interactive interpreter or any Python environment

seconds\_in\_minute = 60

minutes\_in\_hour = 60

seconds\_in\_hour = seconds\_in\_minute \* minutes\_in\_hour

print(seconds\_in\_hour)

OutPut:

3600

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

To assign the result of the previous calculation (seconds in an hour) to a variable called seconds\_per\_hour

seconds\_per\_hour.

seconds\_in\_minute = 60

minutes\_in\_hour = 60

seconds\_per\_hour = seconds\_in\_minute \* minutes\_in\_hour

print(seconds\_per\_hour)

Output:

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.

To calculate the number of seconds in a day, you can multiply the number of seconds per hour (3600) by the number of hours in a day (24).

seconds\_per\_hour = 3600

hours\_per\_day = 24

seconds\_per\_day = seconds\_per\_hour \* hours\_per\_day

print(seconds\_per\_day)

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

To calculate the number of seconds in a day and save the result in a variable called seconds\_per\_day.

seconds\_per\_hour = 3600

hours\_per\_day = 24

seconds\_per\_day = seconds\_per\_hour \* hours\_per\_day

print(seconds\_per\_day)

Output:

86400

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

To divide the variable seconds\_per\_day by seconds\_per\_hour using floating-point division,

seconds\_per\_hour = 3600

seconds\_per\_day = 86400

result = seconds\_per\_day / seconds\_per\_hour

print(result)

Output:

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?

To divide seconds\_per\_day by seconds\_per\_hour using integer division (//),

seconds\_per\_hour = 3600

seconds\_per\_day = 86400

result = seconds\_per\_day // seconds\_per\_hour

print(result)

Output:

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, ...

To create a generator function genPrimes that generates a sequence of prime numbers on successive calls to its next()

def genPrimes():

prime\_numbers = []

num = 2

while True:

is\_prime = True

for prime in prime\_numbers:

if num % prime == 0:

is\_prime = False

break

if is\_prime:

prime\_numbers.append(num)

yield num

num += 1