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).

Ans:60\*60

3600

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

Ans: 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.

Ans: seconds\_per\_hour\*24

86400

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

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

seconds\_per\_day

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

Ans: 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?

Ans: 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, ...

Ans:

|  |
| --- |
|  |
| def genPrimes(): |
|  | primes = [2] |
|  | yield primes[0] |
|  | guess = 3 |
|  | while True: |
|  | if all(guess%x != 0 for x in primes): |
|  | primes.append(guess) |
|  | if guess == primes[-1]: |
|  | yield primes[-1] |
|  | guess += 2 |
|  |  |