Python Basic- Assignment- 15

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

Answer:

```
print(60*60)
```

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

Answer:

```
seconds_per_hour = 60*60
print(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 = 3600
minutes_per_hour = 60
seconds_per_day = seconds_per_hour * 24
minutes_per_day = minutes_per_hour * 24
total_seconds_per_day = seconds_per_day + (minutes_per_day * 60)
print("There are " + str(total_seconds_per_day) + " seconds in a day.")
```

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

```
seconds_per_day = 24*60*60
print(seconds_per_day)
```

5. Divide seconds_per_day by seconds_per_hour. Use floating-point (/) division.

```
seconds_per_day = 86400
seconds_per_hour = 3600
print(seconds_per_day / seconds_per_hour)
```


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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 = 86400
seconds_per_hour = 3600
Answer:
integer_division = seconds_per_day // seconds_per_hour
print(integer_division)
```

Output: 24

Yes, this number agrees with the floating-point value from the previous question, aside from the final .0.

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():
    n = 0
    while True:
        if n == 2 or n == 3 :
            yield n
        elif ((n-1)%6 == 0 or (n+1)%6 == 0) and n !=1:
            yield n
        n = n+1

output = genPrimes()
for ele in range(5):
    print(next(output))
```


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