

# EXERCISES:

# GENERATORS

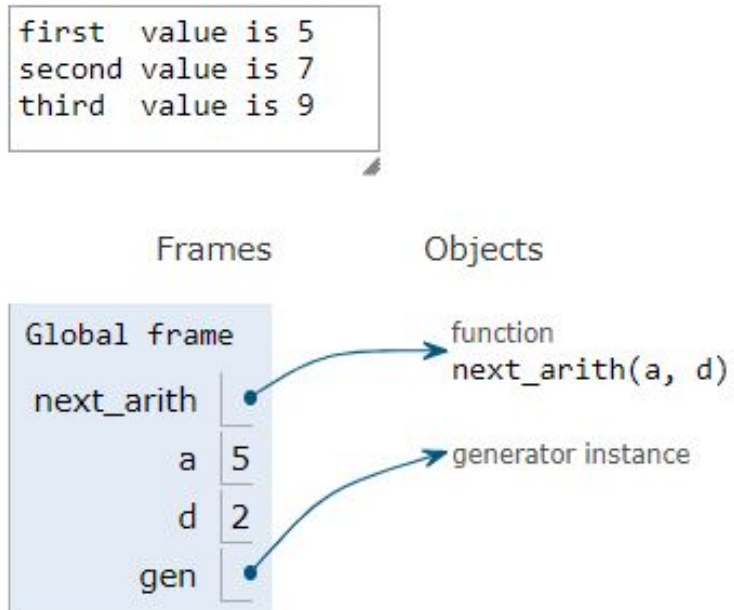
- write function *next\_arith()* to produce the next value in arithmetic progression  $A(a, d)$

$$a, a+d, a+2d, \dots, a+nd, \dots$$

# Solution:

```
def next_arith(a, d):
    start = a
    while True:
        yield start
        start = start + d

# test for a = 5, d=2
a, d = 5, 2
gen = next_arith(a, d)
print("first value is", next(gen))
print("second value is", next(gen))
print("third value is", next(gen))
```



- write function *next\_geom()* to produce next value in geometric progression  $G(b, q)$

$$b, bq, bq^2, \dots, bq^n, \dots$$

# Solution:

```
def next_geom(b, q):  
    start = b  
    while True:  
        yield start  
        start = start * q  
  
# test for a = 5, d=2  
b, q = 5, 2  
gen = next_geom(b, q)  
print("first value is", next(gen))  
print("second value is", next(gen))  
print("third value is", next(gen))
```

```
first value is 5  
second value is 10  
third value is 20
```

