Day 09 – `range()` in Python

Understand how Python's `range()` function works with one, two, and three arguments, and its key properties.

What is `range()` in Python?

The `range()` function is used to generate a sequence of numbers. It is commonly used in loops, especially `for` loops.

Key Properties:

- Immutable and memory efficient (lazy evaluation)
- Can take 1, 2, or 3 arguments
- Commonly used with `for` loops
- Returns a `range` object, which can be converted to a list if needed
- **Does NOT support floats** — only integers are allowed

1. `range(stop)` – One Argument

In [1]:
```python
for i in range(5):
    print(i)  # Prints 0 to 4
```

```
0
1
2
3
4
```

2. `range(start, stop)` – Two Arguments

In [2]:
```python
for i in range(2, 7):
    print(i)  # Prints 2 to 6
```

```
2
3
4
5
6
```

3. `range(start, stop, step)` – Three Arguments

In [5]:
```python
# Positive step
for i in range(1, 10, 2):
    print(i)  # Prints 1, 3, 5, 7, 9
```

```
1
3
5
7
9
```

In [6]:
```python
# Negative step (counting backwards)
for i in range(10, 0, -2):
    print(i)
```

```
10
8
6
4
2
```

Bonus: Convert range to list

In [7]:

```
print(list(range(5)))
```

```
[0, 1, 2, 3, 4]
```

range() does NOT support floats

In [8]:

```
range(1.0, 5.0) #  This will cause an error
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[8], line 1
----> 1 range(1.0, 5.0)

TypeError: 'float' object cannot be interpreted as an integer
```