1. **Advantage and Disadvantage of Iterator?**

* **Iterators have several advantages:**

 The iterator design pattern is easy to implement it uses iterator interface, container interface and concrete class that implement container interface.

* Cleaner code
* Iterators can work with infinite sequences
* Iterators save resources

Python has several built-in objects, which implement the iterator protocol. For example lists, tuples, strings, dictionaries or files.

* **some disadvantages / shortcoming of iterators in programming languages:**

Iterators are great and they are generally very easy to read in code, but there are times when they just don't work. For example,

If you need to walk through two different data structures at the same time in some complex way (especially when the data in one determines your position in the other), then iterators can actually get in your way.

If you need to update the structure being iterated, normally you are not allowed to because of the way the iterator stores its position.

If you need to backtrack while processing through a list, then iterators may not work at all.

1. **What is Infinite Iterator?**

* **Iterators in Python :**

Iterators are everywhere in Python. They are elegantly implemented within for loops, comprehensions, generators etc. but are hidden in plain sight.

Iterator in Python is simply an [object](https://www.programiz.com/python-programming/class) that can be iterated upon. An object which will return data, one element at a time.

Technically speaking, a Python **iterator object** must implement two special methods, \_\_iter\_\_() and \_\_next\_\_(), collectively called the **iterator protocol**.

An object is called **iterable** if we can get an iterator from it. Most built-in containers in Python like: [list](https://www.programiz.com/python-programming/list), [tuple](https://www.programiz.com/python-programming/tuple), [string](https://www.programiz.com/python-programming/string) etc. are iterables.

The iter() function (which in turn calls the \_\_iter\_\_() method) returns an iterator from them.(4)

(4). <https://www.programiz.com/python-programming/iterator>