

Assignment - 25

1A. Square brackets are lists while parentheses are tuples

2A.

Iterator

Class is used to implement an iterator

Local Variables aren't used here.

Iterators are used mostly to iterate or convert other objects to an iterator using iter() function.

Iterator uses iter() and next() functions

Every iterator is not a generator

Generator

Function is used to implement a generator.

All the local variables before the yield function are stored.

Generators are mostly used in loops to generate an iterator by returning all the values in the loop without affecting the iteration of the loop

Generator uses yield keyword

Every generator is an iterator

3A.

If a function contains at least one yield statement (it may contain other yield or return statements), it becomes a generator function. Both yield and return will return some value from a function.

4A .Yield provides a value to the code looping over the generator and pauses execution of the generator function.

5A.

List comprehension is more concise and easier to read as compared to map.

List comprehension allows filtering. In map, we have no such facility. For example, to print all even numbers in range of 100, we can write `[n for n in range(100) if n%2 == 0]`. There is no alternate for it in map

List comprehension are used when a list of results is required as map only returns a map object and does not return any list.

List comprehension is faster than map when we need to evaluate expressions that are too long or complicated to express

Map is faster in case of calling an already defined function (as no lambda is required).