1) What is the difference between enclosing a list comprehension in square brackets and parentheses?

Ans: The difference between the two kinds of expressions is that the List comprehension is enclosed in square brackets [] while the Generator expression is enclosed in plain parentheses

A List Comprehension, just like the plain range function, executes immediately and returns a list.

A Generator Expression, just like xrange returns and object that can be iterated over.

2) What is the relationship between generators and iterators?

Ans: >To write a python generator, you can either use a [**Python function**](https://data-flair.training/blogs/python-functions/) or a comprehension. But for an iterator, you must use the iter() and next() functions

> A generator in python makes use of the ‘yield’ keyword. A python iterator doesn’t.

>Python generator saves the states of the local variables every time ‘yield’ pauses the [loop in python](https://data-flair.training/blogs/loops-in-python/). An iterator does not make use of local variables, all it needs is iterable to iterate on.

> You can implement your own iterator using a [python class](https://data-flair.training/blogs/python-classes/); a generator does not need a class in python.

3) What are the signs that a function is a generator function?

Ans: A generator is a special type of function which does not return a single value, instead, it returns an iterator object with a sequence of values. In a generator function, a yield statement is used rather than a return statement.

4) What is the purpose of a yield statement?

Ans: In its simplest form, a yield statement looks much like a return statement, except that instead of stopping execution of the function and returning, yield instead provides a value to the code looping over the generator and pauses execution of the generator function.

5) What is the relationship between map calls and list comprehensions? Make a comparison and contrast between the two.

Ans: >List comprehension is more concise and easier to read as compared to 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