

## Python Assignment - 5

### 1. What is `__init__`??

"`__init__`" is **a reserved method in python classes**. It is called a constructor in object-oriented terminology. This method is called when an object is created from a class and it allows the class to initialize the attributes of the class

### 2. What is self in Python?

The self-parameter is a reference to the current instance of the class and is used to access variables that belong to the class.

### 3. How can you randomize the items of a list in place of Python?

The method `shuffle ()` can be used to randomize the items of a list in place. It should be noted that this function is not accessible directly and therefore we need to import or call this function using the `random` static object.

### 4. What are python iterators?

In Python, an iterator is **an object which implements the iterator protocol**, which means it consists of the methods such as `__iter__ ()` and `__next__ ()`. An iterator is an iterable object with a state so it remembers where it is during iteration.

### 5. What are pickling and unpickling?

**Pickling in python refers to the process of serializing objects into binary streams, while unpickling is the inverse of that.** It's called that because of the `pickle` module in Python which implements the methods to do this.

## Python Assignment - 5

### 6. What are the generators in python?

Python generators are **a simple way of creating iterators**. All the work we mentioned above are automatically handled by generators in Python. Simply speaking, a generator is a function that returns an object (iterator) which we can iterate over (one value at a time).

### 7. How will you capitalize the first letter of string?

The first letter of a string can be capitalized **using the capitalize () function**. This method returns a string with the first letter capitalized. If you are looking to capitalize the first letter of the entire string the title () function should be used.

### 8. How to comment multiple lines in python?

Consecutive single-line comments can be used as multiline comments in Python. Here, the first two lines contain hash character (#) and the interpreter prevents the two lines from execution. Then it prints the “Python Comments” and finally, it will prevent the last line from execution.

### 9. difference between process and thread python

A process is an active program i.e. a program that is under execution. It is more than the program code as it includes the program counter, process stack, registers, program code, etc. Compared to this, the program code is only the text section.

A thread is a lightweight process that can be managed independently by a scheduler. It improves the application performance using parallelism. A thread shares information like data segment, code segment, files, etc. with its peer threads while it contains its own registers, stack, counter etc.