**Assignement-24**

Q.1 => What is the relationship between def statements and lambda expressions ?

**Answer :-**

**Both lambda and def used to create a function.**

**Technical difference is syntactical.**

**A lambda is expression for producing a function and def is a statement for producing a function.**

**Execution time is slower when we performed same operation using lambda expression.**

Q.2 => What is the benefit of lambda?

**Answer: -**

1. **Execution time slower when we performed same function.**
2. **Anonymous function are great way to simply write function that you only need to reference one time.**
3. **Lambda function allow you to create small and single use function that decrease your line of code and also space**.

Q.3 => Compare and contrast map, filter, and reduce.

**Answer :-**

**Python reduce() function does not return new sequence like map(), and filter(), it return a single value.**

**Map() and reduce() come built in with python no need to import but reduce() function need to be imported because it resides in functools module.**

**Map() function return array of piece of information from original array.  
 filter() function return subset of array from original array.**

**Reduce() function return a single value.**

Q.4 => What are function annotations, and how are they used?

**Answer:-**

**Function annotations arbitrary python expression that are associated with various part of function.**

**These expression are evaluated at compile time and have no life in python runtime environment.**

**Python does not attach any meaning of these annotations.**

Q.5 => What are recursive functions, and how are they used?

**Answer:-**

**Recursive function is a function in code that refer itself for execution.**

**Recursive function can be simple and elaborate.**

**They allow for more efficient code writing, for instance in the listing or compling of sets of numbers strings and other variable.**

Q.6 => What are some general design guidelines for coding functions?

**Answer :-**

**Python have excellent style guide call PEP8.**

1. **Use 4 spaces instead of tabs.**
2. **Maximum line length is 120 symbols.**
3. **2 blank line between classes and functions**
4. **1 blank line within class and class methods.**
5. **No blank line follow def line.**
6. **No whitespace inside paranthesis, brackets and braces.**

Q.7 => Name three or more ways that functions can communicate results to a caller.

**Answer :-**

**Function calling in python**

1. **Def function\_name()**
2. **Function\_name()**
3. **Str = function\_name(“Sachin”)**

**Print(str)**

**These are the way of calling function.**