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

2. What is the benefit of lambda?

3. Compare and contrast map, filter, and reduce.

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

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

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

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

**ANSWERS:**

**1ans) 1. To define a statement we need to use keyword def along with the name of the function whereas in lambda function we just need to use only lambda keyword.**

**2. In def statement ,we must use return statement to return the values whereas in lambda expression, there is no need of using return statement.**

**2ans) Lambda can have any number of arguments but only one expression. the expression is evaluated and returned. It reduces number of lines of code than other function.**

**3ans) map creates new array by transferring each element individually to the new array. Filter tries to create new array by removing the elements which are not needed and reduce takes all values in an array and tries to reduce to single value.**

**5ans) Recursive functions are function that call itself. It is used when a problem is defined by itself.**

**6ans) 1. Use 4 spaces instead of tabs.**

**2. it can be used without causing harm.**

**3. it can be tested at code level.**

**7ans) 1.call by value()**

**2.call by reference()**

**3) directly calling with function\_name()**