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

Def statement will be used to define a function name along with the body and arguments.

Whereas the lambda expression are used to perform the same task without a function body.

Function written with def statement can be converted to the lambda expression.

2. What is the benefit of lambda?

These are acts as a single line function.

No need to define a body, function name

Single line of code can achieve the same thing with defined functions .

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

Here map and filter function returns a value by passing the iterable to the function.

Whereas the reduce function will pass the values to the function and then it will add the previous results and next iterable and performs the action mentioned in the function and so on and on.

We can also initialize a start values for the reduce function.

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

Function annotations are a Python 3 feature that lets you add arbitrary metadata to function arguments and return value.

We can annotate a function in the following manner:

Def fun(a, b:’annoting this b’,c: int) -> float:

Print(a+b+c)

Here we’ve annoted b and c and the return values as float.

But it will not affect the normal execution of the function.

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

It means the function can call itself recursively and perform the execution.

This can be used to perform the task into a loop and it can run until a specific condition set is met.

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

Use a meaningful name to the function.

Use the proper tab indentation to avoid error.

Name of the function / words should be separated with \_ and words should be in a small.

Put some descriptions in the line of code wherever required for understanding.

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

By printing a results.

By passing a values

By returning a value

By returning an object