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

def statement is used to create a normal function whereas lambda expressions are used to create Anonymous functions which can be assigned to a variable and can be called using the variable later in function.

Lambda's body is a single expression and not a block of statements like def statement. The lambda expression's body is similar to what we would put i

2. What is the benefit of lambda?

1. It can be used to create Nameless/Anonymous functions inside some complex functions if we are planning to use it only once.

2. Moderate to small functions can be created in a single line

3. Functions created using lambda expressions can be assigned to a variable and can be used by simply calling the variable

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

1. map(): The map() function is a type of higher-order. This function takes another function as a parameter along with a sequence of iterables and returns an output after applying the function to each iterable present in the sequence.

2. filter(): The filter() function is used to create an output list consisting of values for which the function returns true.

3. reduce(): The reduce() function, as the name describes, applies a given function to the iterables and returns a single value

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

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

A recursive function is a function that calls itself during its execution. The process may repeat several times

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

1) Always use a docstring to explain the functionality of the function

2) Avoid using or limit use of global variables

3) Proper Indentation to increase the code readability

4) Try to follow a proper naming convention for function names (pascalCase or camelCase) and stick with the same convention throughout the application.

5) Avoid using digits while choosing a variable name

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

print

return

yield