1. What is functions? State its type and explain the syntax to define a Function.

Ans: A **function** is a block of code that performs a specific task. It allows us to write reusable code, making the program modular, easier to understand, and maintain. Functions can take input arguments (parameters), perform some operations, and return a result.

Types of Functions:

1. **Built-in Functions**: These are predefined functions that are provided by the programming language. Examples in Python include , print(), len(), max(), etc.
2. **User-defined Functions**: These are functions created by the user to perform specific tasks. You define them with your desired behavior using the def keyword in Python.
3. **Recursive Functions**: A function that calls itself with in its body to solve smaller instances of the same problem.
4. **Higher-Order Functions**: Functions that can take other functions as arguments or return functions.

Syntax: def function_name(parameters):

return result # body of the function

Example:

```
def add_numbers(a, b):
    result = a + b
    return result
```

2. What is lambda function ?

Ans: A **lambda function** is a small, anonymous function defined using the lambda keyword. It is typically used for short, simple operations that are not complex enough to require a full function definition.

Syntax of a Lambda Function:

Lambda arguments: expression

- **lambda**: Keyword to define the function.
- **arguments**: Parameters the function takes.
- **expression**: The single expression to be evaluated and returned.

```
add = lambda x, y : x + y
print(add(3, 5))
```