Case Study 02

1. Write a Python function to sum all the numbers in a list. (Create a list and get list elements from user)
2. Write a Python function that checks whether a passed string is palindrome or not.
3. Write a Python recursive function to find the Fibonacci series. Get the limit from the user
4. Write a Python recursive function to print the multiplication table of given number
5. Define a function which counts vowels and consonant in a word.
6. Define a function that accepts lowercase words and returns uppercase words.
7. Write a Python program to remove 'None' values from a given list using the lambda function.

   Given input = [12, 0, None, 23, None, -55, 234, 89, None, 0, 6, -12]

   Expected output = [12, 0, 23, -55, 234, 89, 0, 6, -12]

8. Write a Rectangle class in Python language, allowing you to build a rectangle with length and width attributes.
   a. Create a Perimeter() method to calculate the perimeter of the rectangle and a Area() method to calculate the area of the rectangle.
   b. Create a method display() that display the length, width, perimeter and area of an object created using an instantiation on rectangle class.
   c. Create a Parallelepiped child class inheriting from the Rectangle class and with a height attribute and another Volume() method to calculate the volume of the Parallelepiped.
9. Create a Python class called BankAccount which represents a bank account, having as attributes: accountNumber (numeric type), name (name of the account owner as string type), balance.
   a. Create a constructor with parameters: accountNumber, name, balance.

b. Create a Deposit() method which manages the deposit actions.
c. Create a Withdrawal() method which manages withdrawals actions.
d. Create an bankFees() method to apply the bank fees with a percentage of 5% of the balance account.
e. Create a display() method to display account details.
f. Give the complete code for the BankAccount class.

10. Create a base class rectangle with attributes length and breadth, methods area and perimeter.
    a. Save the rectangle class as a python file rectangle.py file.
    b. Open another python script and import the rectangle.py file.
    c. In the newly created script derive a child class called Parallelepiped class inheriting from the Rectangle class and with a height attribute and another Volume() method to calculate the volume of the Parallelepiped.
    d. Now create objects for parent class and child class in newly created script and access methods of parent class and child class.
    (Upload the rectangle.py file and python script of question 10 as separate files in github and share the link Paatshala)