Function Assignment

1. What is the output of the following function?

   ```python
   def outer():
       def inner():
           return "Hello, I'm the inner function!"
       return inner()

   ans = outer()
   print(ans)
   ```

2. What is the output of the following function? (dry run compulsory)
   ```python
   def outer():
       def inner():
           return "Hello, I'm the inner function!"

       return inner

   retObj = outer()
   retInner = retObj()

   print(retInner)
   ```

3. WAP for function returns the array of factorial of the element

4. WAP for a function that returns the count of the search element in the list

5. Write the parent function that includes the nested functions digitCount, evenDigitCount, and oddDigitCount. Prompt the user to choose the desired function and provide a list of elements. Then, invoke the selected function based on the user's choice and the input list

6. Python program that defines a parent function with two nested functions (myIndex and myPalindrome). The program prompts the user to choose between these two functions and then calls the selected function based on the user's input

7. WAP defines a class Sum with a mySum method that returns the sum of two numbers. The program creates two class objects, takes user input to set values for each object,

prints the return sum for both objects, and then determines whether the total sum is even or odd.

8. Write a realtime example of oop which contains the following point.
    a. Instance variable
    b. constructor
    c. Class variable
    d. Instance method

9. Write a real-time example of OOP on IPL cricket by the following point.
    a. Instance variable
    b. constructor
    c. Class variable
    d. Instance method

10. Write a program in which you have to write a __new__ user-defined function that creates a new instance of a class.