**Implement Functions in a Program Assignment**

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# A16. Write a program to find all odd length palindromes from a list.

def is\_palindrome(s):

    return s == s[::-1]

def odd\_length\_palindromes(strings):

    odd\_palindromes = []

    for string in strings:

        if len(string)%2 != 0:

            odd\_palindromes.append(string)

    return odd\_palindromes

string\_list = ["argha", "level", "deified", "python", "radar", "good", "madam", "hello"]

odd\_palindromes = odd\_length\_palindromes(string\_list)

print("Odd length palindromes:", odd\_palindromes)

# A17. Write a recursive function to find HCF of two numbers. Use the function to find the LCM of set of numbers.

def hcf(a, b):

    if b == 0:

        return a

    return hcf(b, a % b)

def lcm(a, b):

    return (a \* b) // hcf(a, b)

n1, n2 = 12, 18

print("HCF:", hcf(n1, n2))

print("LCM:", lcm(n1, n2))

# A18. Using recursion write a program find a factorial of a number.

def fact(n):

    if n==0 or n==1:

        return 1

    return n \* fact(n-1)

n = 5

print(f"Factorial of {n} is {fact(n)}")

# A19. Using recursion write a program find Fibonacci serise of 1st n terms.

def fibo(first, sec, n):

    if n == 0:

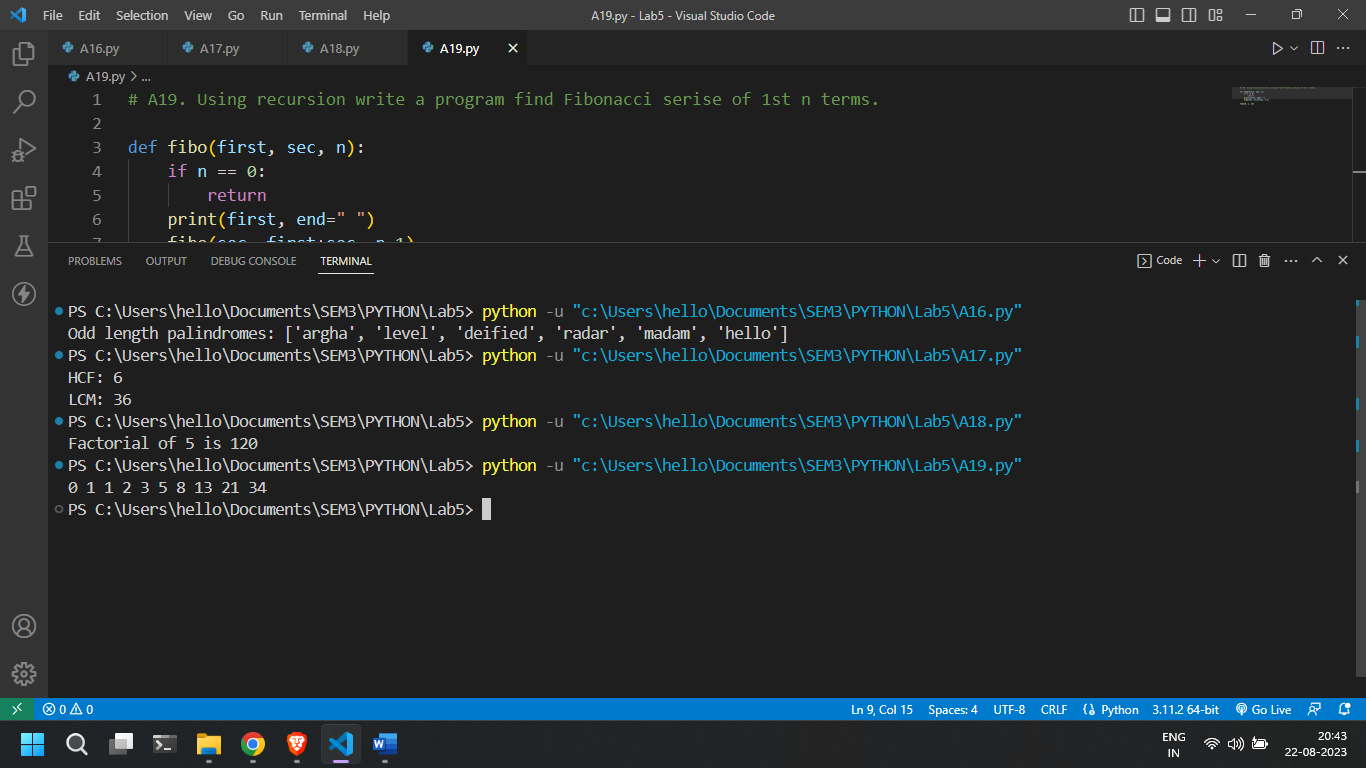
        return

    print(first, end=" ")

    fibo(sec, first+sec, n-1)

fibo(0, 1, 10)

**OUTPUT**

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