**Exercise 4**

#Q1: Write a Program to make a simple calculator that can add, subtract, multiply and divide using functions

def calculator():

    x = float(input("enter the value for n1"))

    y = float(input("enter the value of n2"))

    operator = input("enter the operator : +, -, \*, /")

    if operator == "+":

        result = x+y

    elif operator == "-":

        result = x-y

    elif operator == "\*":

        result = x\*y

    else:

        result = x/y

    print(result)

#Qn.2 write a Program to display the Fibonacci sequence up to n-th term where n is provided by the user

num = int(input("enter the terms"))

a,b = 0,1

for i in range(num+1):

    a,b = b,a+b

    print(a)

#Qn.3 Write a Python Program To Display Powers of 2 Using Anonymous Function

( Lambda function). Take number of terms from user

terms = int(input("ENTER VALUES"))

b = range(1, terms+1)

k = list(map(lambda x : x\*\*2, b))

k

#Qn.4 Write a Python Program to find numbers divisible by thirteen from a list using anonymous function

list1 = list(map(int,input("ENTER VALUES").split()))

list2 = list(filter(lambda x : x%13==0,list1))

list2

#Qn.5

num = int(input("enter the terms"))

def fibo(num):

    if num<=1:

        return num

    else:

        return fibo(num-1) + fibo(num-2)

result = fibo(num)

print(result)

#Qn.6

num = int(input("enter the terms"))

def sum1(num):

    if num==0:

        return num

    else:

        return num + sum1(num-1)

result = sum1(num)

print(result)

#Qn.7

s = input("enter the string")

s = s.replace(" ", "")

s = s.lower()

import string

k = string.punctuation

str = []

for i in s:

    if i not in k:

        str.append(i)

if str[::]==str[::-1]:

    print("Given string is palindrome")

else:

    print("given string is not palindrome")

#Qn.8

import string

s = set(string.ascii\_lowercase)

pangram = "The quick brown fox jumps over the lazy dog"

k = pangram.lower()

k = k.replace(" ","")

k = set(k)

**if k.issubset(s):**

**print("this is pangram")**

**else:**

**print("this is not pangram")**

**#Qn.9**

**def overlapping():**

**list1 = set(input("enter list values").split(","))**

**list2 = set(input("enter list values").split(","))**

**k = list1.intersection(list2)**

**if k == set():**

**print("False")**

**else:**

**print("True")**

**#Qn.10**

**def find\_longest\_word():**

**word = input("enter your words").split()**

**k = 0**

**for i in range(len(word)):**

**k = max(k, len(word[i]))**

**if k == len(word[i]):**

**m = word[i]**

**print("length of longest word is",k, "and longest word is", m)**

**#Qn.11**

**def filter\_long\_words(n):**

**word = input("enter your words").split()**

**final = []**

**for i in word:**

**if len(i)>n:**

**final.append(i)**

**print(final)**