Lab	Program
1	a. Write a program to demonstrate all the basic data types in python.
	b. Write a program that takes two numbers as command line arguments and prints its summation.
	c. Write a program to print the largest and smallest number of three numbers input from user with and without using library functions.
	d. Write a program to calculate GCD of two numbers.
2	a. Write a program to calculate the square root of a number by Newton's Method.
	b. Write a program for checking whether the given number is an even number or not.
	c. Write a program using a while loop that asks the user for a number, and prints a countdown from that number to zero.
	d. Write a program that uses for loop to print all the odd numbers in the range input by user.
3	a. Write a program to check whether the given string is palindrome or not.

	b. Write a program that accepts a string from user and performs the following operations:
	    i) Print the string in reverse order
	    ii) Print all the odd indexed characters of the string
	    iii) Print the count of all the vowels in the string
	    iv) Print the count of the frequency of an input character in the string

4	a. Write a program to create an empty list. Demonstrate the use of the append function to add elements onto the list.

	b. Demonstrate the use of the following functions of List Data Structure:
	    i) Operations on List: copy(), count(), extend(), index(), reverse(), sort()
	    ii) Manipulating List: append(), insert(), pop(), remove(), clear()

5	a. Write a program to create an empty set. Input the elements from user and write a for loop to add these elements onto the set.

	b. Demonstrate the use of the following functions of Set Data Structure:
	    i) Operations on Set: difference(), difference_update(), intersection(), intersection_update(), symmetric_difference(), symmetric_difference_update(), isdisjoint(), issuperset(), issubset()
	    ii) Manipulating Set: discard(), add(), clear(), copy(), pop(), remove()

6	a. Write a program to demonstrate the use of the following methods in a Tuple: i) count, ii) index
	b. Create an empty dictionary and write a program to add single and multiple elements onto the dictionary.

	c. Write a program demonstrating the use of following functions of the Dictionary Data Structure:
	    i) Operations on Dictionary: copy(), fromkeys(), get(), items(), keys(), values()
	    ii) Manipulating Dictionary: update(), pop(), popitem(), clear()

7	a. Create a python function to find all the unique elements in the list.
	b. Create a python function to find all the duplicate elements in a tuple.
	c. Write a program to create a function in python that compares two dictionaries and returns true or false accordingly.
8	a. Write a program to demonstrate recursion in Python.
	b. Create a function for Stack data structure in Python and implement necessary operations.
	c. Create a function for Queue data structure in Python and implement necessary operations.

9	Implement a Python Program to perform the following Sorting and Searching algorithms:
	    i) Linear search
	    ii) Binary search
	    iii) Selection sort

	iv) Insertion sort	
10	a. Write a program to search content using regular expression library in python.	
	b. Write a program to implement all the functionalities of Numpy library in Python	
11	Write a program to implement all the functionalities of the Pandas library in Python	
12	Write a program to implement all the functionalities of the MatPlotLib, NetworkX library in Python	
13	Write a program to implement all the functionalities of the Pandas library in Python	
14	Write a program to implement all the functionalities of the Scikit-learn library in Python	

Head – Computer Engineering