

## INDEX

Lab	Program	Date	Signature
1.	<ul style="list-style-type: none"> <li>a. Write a program to demonstrate all the basic data types in python.</li> <li>b. Write a program that takes two numbers as input from user and prints its summation.</li> <li>c. Write a program to print the largest and smallest number of three numbers input from user with and without using library functions.</li> <li>d. Write a program to calculate GCD of two numbers.</li> </ul>		
2.	<ul style="list-style-type: none"> <li>a. Write a program to calculate the square root of a number by Newton's Method.</li> <li>b. Write a program for checking whether the given number is an even number or not.</li> <li>c. Write a program using a while loop that asks the user for a number, and prints a countdown from that number to zero.</li> <li>d. Write a program that uses for loop to print all the odd numbers in the range input by user.</li> </ul>		
3.	<ul style="list-style-type: none"> <li>a. Write a program to check whether the given string is palindrome or not.</li> <li>b. Write a program that accepts a string from user and performs the following operations:               <ul style="list-style-type: none"> <li>i. Print the string in reverse order</li> <li>ii. Print all the odd indexed characters of the string</li> <li>iii. Print the count of all the vowels in the string</li> <li>iv. Print the count of the frequency of an input character in the string</li> </ul> </li> </ul>		
4.	<ul style="list-style-type: none"> <li>a. Write a program to create an empty list. Demonstrate the use of the append function to add elements onto the list.</li> <li>b. Demonstrate the use of the following functions of List Data Structure:               <ul style="list-style-type: none"> <li>i. Operations on List: copy(), count(), extend(), index(), reverse(), sort()</li> <li>ii. Manipulating List: append(), insert(), pop(), remove(), clear()</li> </ul> </li> </ul>		
5.	<ul style="list-style-type: none"> <li>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.</li> <li>b. Demonstrate the use of the following functions of Set Data Structure:               <ul style="list-style-type: none"> <li>i. Operations on Set: difference(), difference_update(), intersection(), intersection_update(), symmetric_difference(), symmetric_difference_update(), isdisjoint(), issuperset(), issubset()</li> <li>ii. Manipulating Set: discard(), add(), clear(), copy(), pop(), remove()</li> </ul> </li> </ul>		

6.	<ul style="list-style-type: none"> <li>a. Write a program to demonstrate the use of the following methods in a Tuple: <ul style="list-style-type: none"> <li>i) count</li> <li>ii) index</li> </ul> </li> <li>b. Create an empty dictionary and write a program to add single and multiple elements onto the dictionary.</li> <li>c. Write a program demonstrating the use of following functions of the Dictionary DataStructure: <ul style="list-style-type: none"> <li>i. Operations on Dictionary: copy(), fromkeys(), get(), items(), keys(), values()</li> <li>ii. Manipulating Dictionary: update(), pop(), popitem(), clear()</li> </ul> </li> </ul>		
7.	<ul style="list-style-type: none"> <li>a. Create a python function to find all the unique elements in the list.</li> <li>b. Create a python function to find all the duplicate elements in a tuple.</li> <li>c. Write a program to create a function in python that compares two dictionaries and returns true or false accordingly.</li> </ul>		
8.	<ul style="list-style-type: none"> <li>a. Write a program to demonstrate recursion in Python.</li> <li>b. Create a function for Stack data structure in Python and implement necessary operations.</li> <li>c. Create a function for Queue data structure in Python and implement necessary operations.</li> </ul>		
9.	<p>Implement a Python Program to perform the following Sorting and Searching algorithms:</p> <ul style="list-style-type: none"> <li>i. Linear search</li> <li>ii. Binary search</li> <li>iii. Selection sort</li> <li>iv. Insertion sort</li> </ul>		
10.	<ul style="list-style-type: none"> <li>a. Write a program to search content using regular expression library in python.</li> <li>b. Write a program to implement all the functionalities of Numpy library in Python.</li> </ul>		
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.		