# VIDUSH SOMANY INSTITUTE OF TECHNOLOGY AND RESEARCH

## Department of Computer Engineering

Assignments

## SUBJECT NAME: PYTHON PROGRAMMING SEMESTER:VI

## ACADEMIC YEAR: 2021

## Assignment 1

1. How to comment specific line(s) in Python program?
2. What is Indentation in Python? Explain with example
3. What is String slicing in Python? List all and explain any 10 methods of strings.
4. What is Python? Why python is first choice of data scientist?
5. Write a python program to take two number from user and perform the basic arithmetic operation on it.
6. What is Iteration in Python? Explain iter() and next method().
7. What is list in Python? Demonstrate use of any three methods of list.
8. What is the use of islower() and isupper() method?
9. Give the syntax and significance of raw\_input() and input() methods.
10. Write a Python program to check whether the given no is Armstrong or not using user defined function.
11. Give the syntax and significance of string functions: title() and capitalize().
12. Give the output of following Python code : l=[(x, y) for x in [1,2,3] for y in [3,1,4] if x != y] print l
13. Read a text file in Python and print no. of lines and no. of unique words.
14. Briefly describe the methods of regular expression.
15. Give the output of following Python code: str 1= ‘This is Python’ print "Slice of String : ", str1[1:4:1] print "Slice of String : ", str1[0:-1:2]

**Assignment 2**

1. Is tuple mutable? Demonstrate any two methods of tuple.
2. What is recursion? Explain it with example.
3. What is scoping in python? Explain global variable with example
4. Create a class Employee with data members: name, department and salary. Create suitable methods for reading and printing employee information.
5. Write a Python program to overload + operator.
6. Explain built-in datatypes of python.
7. Explain type conversation and type casting in python.
8. What is escape character in python? List and explain any five.
9. List all operator used in python and explain Identity and Membership Operators.
10. What is dictionary in Python? Explain with an example.
11. What is lambda function in Python? Explain with an example.
12. Write a python program to know the current working directory and to print all contents of the current directory. What changes we need to make in the program if we wish to display the contents of only 'mysub' directory available in current directory?
13. Write a python program to append data to an existing file 'python.py'. Read data to be appended from the user. Then display the contents of entire file.
14. Write a python program to retrieve strings starting with m and having 5 characters.
15. Write a python program to retrieve name and date of birth (mm-dd-yyyy) of students from a given file student.txt.
16. How map can be used in Python program? Explain with a suitable example.
17. Write a Python program to implement the concept of inheritance.
18. Difference between Tuple VS List and Dictionary VS List
19. Write a python program to show exception handling.
20. Difference between array and list in python.
21. Explain \_\_init()\_\_ ,super() and self keyword with example.

**Assignment 3**

1. What are the differences between C and Python?
2. Write a Python program that counts the number of occurrences of the character in the given string. Provide two implementations: recursive and iterative.
3. How map can be used in Python program? Explain with a suitable example.
4. Explain the function which is used to retrieve the parts of URL.
5. What is duck typing philosophy of python?
6. What is Method Resolution Order (MRO)? Explain the principles followed by MRO with example.
7. Write a python program to arrange the characters of a given string 'welcome' in an alphabetical order using insertion sort algorithm.
8. Explain the types of methods available in python with a suitable example of each method.
9. Which are the different ways of creation of threads? Explain each with an example.
10. What are the differences between abstract class and interface? Write a python program in which Maruti and Santro sub classes implement the abstract methods of the super class Car.
11. What is Module in python? Explain it with example
12. Explain datetime(), strftime() method with example.
13. What is regular expression in python? Explain imp function of it.

**Assignment 4**

1. Create a class student with following member attributes: roll no, name, age and total marks. Create suitable methods for reading and printing member variables. Write a python program to overload ‘==’ operator to print the details of students having same marks.
2. Write a python program to show the use of random number generator function.
3. How filter can be used in Python program? Explain with a suitable example.
4. List out keywords used in exception handling.
5. Write a Python program to implement the concept of inheritance.
6. List and explain Searching Algorithm with implementation in python.
7. List and explain Sorting Algorithms with implementation in python.
8. What is Hash table and explain with example.
9. Explain the access modes of file with example.
10. How to read and write a data in and from to file in python.
11. How exception is handled in python? Explain with example.
12. How multiple arguments is passed to function in python?
13. How to pass function to function in python.
14. How to create module in python explain with example.
15. Explain the following module with their few inbuilt methods.
16. Sys 2. Math 3. Time 4. Pathlib
17. Explain the dir function in python.