



MGM's

## Jawaharlal Nehru Engineering College Aurangabad

Affiliated to Dr.B.A.Technological University , Lonere Maharashtra

ISO 9001:2015,140001:2015 Certified, AICTE Approved

### Department of Computer Science & Engineering

# LAB MANUAL

Programme (UG/PG) : UG

Year : Second Year

Semester : III

Course Code : BTCOL307

Course Title : Python Programming

Prepared By

Ms.S.J.Patil

Assistant Professor

Department of Computer Science & Engineering

## **FOREWORD**

It is my great pleasure to present this laboratory manual for second year engineering students for the subject of Python Programming.

As a student, many of you may be wondering with some of the questions in your mind regarding the subject and exactly what has been tried is to answer through this manual.

As you may be aware that MGM has already been awarded with ISO 9001:2015, 140001:2015 certification and it is our endure to technically equip our students taking the advantage of the procedural aspects of ISO Certification.

Faculty members are also advised that covering these aspects in initial stage itself, will greatly relived them in future as much of the load will be taken care by the enthusiasm energies of the students once they are conceptually clear.

Dr. H. H. Shinde  
Principal

## **LABORATORY MANUAL CONTENTS**

This manual is intended for the second year students of Computer Science and Engineering in the subject of Python Programming. This manual typically contains practical/Lab Sessions related Python Programming covering various aspects related the subject to enhanced understanding.

Students are advised to thoroughly go through this manual rather than only topics mentioned in the syllabus as practical aspects are the key to understanding and conceptual visualization of theoretical aspects covered in the books.

Good Luck for your Enjoyable Laboratory Sessions

**Ms.S.J.Patil**  
Subject Teacher

**Dr. Vijaya Musande**  
HOD

## LIST OF EXPERIMENTS

Course Code: BTCOL307

Course Title: Python Programming Laboratory

S.No	Name of the Experiment	Page No
1.	Introduction to python programming and python datatypes.	1
2.	Python program to find the union of two lists.	3
3.	Python program to find the intersection of two lists.	5
4.	Python program to remove the “i” th occurrence of the given word in a list where words repeat	7
5.	Python program to count the occurrences of each word in a given string sentence.	9
6.	Python program to check if a substring is present in a given string.	11
7.	Python program to map two lists into a dictionary.	13
8	Python program to count the frequency of words appearing in a string using a dictionary.	15
9	Python program to create a dictionary with key as first character and value as words starting With that character.	17
10	Python program to find the length of a list using recursion.	19
11	Python program to read a file and capitalize the first letter of every word in the file.	21
12	Python program to read the contents of a file in reverse order.	23
13	Python program to create a class in which one method accepts a string from the user and another prints it.	25
14	Study and Implementation of Database, Structured Query Language and database connectivity.	27

## **DOs and DON'Ts in Laboratory:**

1. Make entry in the Log Book as soon as you enter the Laboratory.
2. All the students should sit according to their roll numbers starting from their left to right.
3. All the students are supposed to enter the terminal number in the log book.
4. Do not change the terminal on which you are working.
5. All the students are expected to get at least the algorithm of the program/concept to be implemented.
6. Strictly observe the instructions given by the teacher/Lab Instructor.
7. Do not disturb machine Hardware / Software Setup.

## **Instruction for Laboratory Teachers:**

1. Submission related to whatever lab work has been completed should be done during the next lab session along with signing the index.
2. The promptness of submission should be encouraged by way of marking and evaluation patterns that will benefit the sincere students.
3. Continuous assessment in the prescribed format must be followed.

# **HARDWARE AND SOFTWARE REQUIREMENTS**

## **HARDWARE REQUIREMENTS:**

- INTEL PENTIUM 915 GV
- 80GB HDD
- 512MB DDR

## **SOFTWARE REQUIREMENTS:**

- MY SQL
- Python.

## **LABORATORY OUTCOMES**

The practical/exercises in this section are psychomotor domain Learning Outcomes (i.e. subcomponents of the COs), to be developed and assessed to lead to the attainment of the competency.

**LO-1:** Understand principles of Python.

**LO-2:** Ability to *u*nderstand Python code, develop medium-difficulty applications in Python.

**LO-3:** Understand the pros and cons on scripting languages vs. classical programming languages.

**LO-4:** Use Python data structure & develop Python programs by defining functions & calling them.

**LO-5:** Understand object oriented programming.

## **Experiment No: 1**

**Title:** Introduction to python programming and python datatypes.

**Objective:**

- To study Python on different platforms.
- To study and implement python datatypes.

**Theory/Description:**

Study Python. Describe it with respect to following points:

- 1.What is Python?
- 2.Python features.
- 3.Compiling & Interpreting on Windows and Linux.
- 4.What are IDE's & Code Editor's?
- 5.Applications of python.
- 6.Describe python datatypes with examples.
- 7.Conversion between different datatypes.

**Conclusion ( must include analysis of program):**-----

**LAB PRACTICE ASSIGNMENT:**

Assignment No.1 : Explain python built-in functions with its syntax.

**LAB PRACTICE PROGRAMS:**

- 1.Python program to calculate the average of numbers in a given list.
- 2.Python program to exchange the values of two numbers without using a temporary variable.
- 3.Python program to read a number n and compute n+nn+nnn.
- 4.Python program to reverse a given number.
- 5.Python program to check whether a number is positive or negative.
- 6.Python program to take in the marks of 5 subjects and display the grade.

**VIVA-VOCE QUESTIONS :**

- 1.Is python programming language or scripting language? justify your statement.
- 2.List the different modes of running python scripts?
- 3.Mention five benefits of using Python?
- 4.List the differences between compiler and interpreter?
- 5.What are the supported data types in Python?



6. What is command line argument?
7. How to represent complex numbers in python?
8. What is the importance of type conversion?
9. How to determine the type of a variable in Python?
10. How to assign multiple values to variables in single line in python?
11. How many reserved keywords are there in python?
12. Write a print statement to display the output Hello"World"Everyone?
13. How to write multiline statements in python?
14. What is indentation error with an example?

## **Experiment No: 2**

**Title:** Python program to find the union of two lists.

**Objective:**

- To study set operations.
- To implement union of two lists.

**Theory/Description:**

- 1.Set Operations.
- 2.Union with Venn diagram and example.
- 3.Describe python set union with its syntax.

**Algorithm:**

- 1.Define a function which accepts two lists and returns the union of them.
- 2.Declare two empty lists and initialize to an empty list.
- 3.Consider a for loop to accept values for two lists.
- 4.Take the number of elements in the list and store it in a variable.
- 5.Accept the values into the list using another for loop and insert into the list.
- 6.Repeat 4 and 5 for the second list also.
- 7.Find the union of the two lists.
- 8.Print the union.
- 9.Exit.

**Program:**

**Result/Output :**

```
Enter the number of elements in list:5
Enter element1:10
Enter element2:10
Enter element3:20
Enter element4:20
Enter element5:20
Non-duplicate items:
[10, 20]
```

**Conclusion ( must include analysis of program):**-----

**LAB PRACTICE ASSIGNMENT:**

Assignment No.2 : Python program to search the number of times a particular number occurs in a list.

**LAB PRACTICE PROGRAMS:**

1. Python program to print all numbers in a range divisible by a given number.
2. Python program to print odd numbers within a given range.
3. Python program to find the sum of digits in a number.
4. Python program to find the smallest divisor of an integer.
5. Python program to count the number of digits in a number.

**VIVA-VOCE QUESTIONS :**

1. What is the difference between a for loop and a while loop?
2. What is the purpose of range() function with an example?
3. What is the purpose of break statement in python?
4. What is the purpose of continue statement in python?
5. What is the purpose of pass statement in python?

## **Experiment No: 3**

**Title:** Python program to find the intersection of two lists.

**Objective:**

- To study set operations.
- To implement intersection of two lists.

**Theory/Description:**

- 1.Set operations.
- 2.Intersection with Venn diagram and example.
- 3.Describe Python set intersection with its syntax.

**Algorithm:**

- 1.Define a function which accepts two lists and returns the intersection of them.
- 2.Declare two empty lists and initialize them to an empty list.
- 3.Consider a for loop to accept values for the two lists.
- 4.Take the number of elements in the list and store it in a variable.
- 5.Accept the values into the list using another for loop and insert into the list.
- 6.Repeat 4 and 5 for the second list also.
- 7.Find the intersection of the two lists.
- 8.Print the intersection.
- 9.Exit.

**Program:**

**Result/Output :**

```
Enter number of elements for list1:3
Enter number of elements for list2:4
For list1:
Enter element1:34
Enter element2:23
Enter element3:65
For list2:
Enter element1:33
Enter element2:65
Enter element3:23
Enter element4:86
```

The intersection is :  
[65, 23]

**Conclusion ( must include analysis of program):**-----

**LAB PRACTICE ASSIGNMENT:**

Assignment No.3 : Python program to compute a polynomial equation given that the coefficients of the polynomial are stored in a list.

**LAB PRACTICE PROGRAMS:**

1. Python program to find the largest number in a list.
2. Python program to find the second largest number in a list.
3. Python program to put even and odd elements in a list into two different lists.
4. Python program to merge two lists and sort it.
5. Python program to sort a list according to the length of the elements.
6. Python program to swap the first and last value of a list.

**VIVA-VOCE QUESTIONS :**

1. What is the importance of functions in python?
2. Why programmers need to choose a function programming in python?
3. What is function call and function definition?
4. What is parameter/argument?
5. How to sort all the elements of a list in python?
6. What is the purpose of return statement?

## Experiment No: 4

**Title:** Python program to remove the ith Occurrence of the given word in a list where words can repeat.

**Theory/Description:**

1.Explain python list methods with its syntax and examples.

**Algorithm:**

- 1.Take the number of elements in the list and store it in a variable.
- 2.Accept the values into the list using a for loop and insert them into the list.
- 3.Use a for loop to traverse through the elements in the list.
- 4.Then use an if statement to check if the word to be removed matches the element and the occurrence number and otherwise it appends the element to another list.
- 5.The number of repetitions along with the updated list and distinct elements is printed.
6. Exit.

**Program:**

**Result/Output :**

```
Enter the number of elements in list:5
Enter element1:"apple"
Enter element2:"apple"
Enter element3:"ball"
Enter element4:"ball"
Enter element5:"cat"
['apple', 'apple', 'ball', 'ball', 'cat']
Enter word to remove: "ball"
Enter the occurrence to remove: 2
('The number of repetitions is: ', 2)
('Updated list is: ', ['apple', 'apple', 'ball', 'cat'])
('The distinct elements are: ', set(['ball', 'apple', 'cat']))
```

**Conclusion ( must include analysis of program):**-----

**LAB PRACTICE PROGRAMS:**

1. Python program to remove the duplicate items from a list.
2. Python program to read a list of words and return the length of the longest one.
3. Python program to create a list of tuples with the first element as the number and second element as the square of the number.
4. Python program to find all numbers in a range which are perfect squares and sum of all digits in the number is less than 10.
5. Python program to find the cumulative sum of a list where the  $i$ th element is the sum of the first  $i+1$  elements from the original list.

### **VIVA-VOCE QUESTIONS :**

1. What is the difference between list and tuple?
2. What are the built-in type does python provides?
3. What is the output of `print list[2]` if `list = [ 'abcd', 786 , 2.23, 'john', 70.2 ]`?
4. What is the output of `print list[1:3]` if `list = [ 'abcd', 786 , 2.23, 'john', 70.2 ]`?
5. What is the output of `print list[2:]` if `list = [ 'abcd', 786 , 2.23, 'john', 70.2 ]`?
6. What is the output of `print tinylist * 2` if `tinylist = [123, 'john']`?
7. How will you compare two lists?
8. How will you get the length of a list?
9. How will you get the max valued item of a list?
10. How will you get the index of an object in a list?
11. How will you remove an object from a list?
12. How will you reverse a list?
13. How will you sort a list?

## **Experiment No: 5**

**Title:** Python program to count the occurrences of each word in a given string sentence.

### **Theory/Description:**

1.Explain python string methods with its syntax and examples.

### **Algorithm:**

- 1.Take a string and a word from the user and store it in separate variables.
- 2.Initialize a count variable to 0.
- 3.Split the string using space as the reference and store the words in a list.
- 4.Use a for loop to traverse through the words in the list and use an if statement to check if the word in the list matches the word given by the user and increment the count.
- 5.Print the total count of the variable.
- 6.Exit

### **Program:**

### **Result/Output :**

```
Enter string:hello world
Enter word:hello
Count of the word is: 1
```

### **Conclusion ( must include analysis of program):**

### **LAB PRACTICE ASSIGNMENT:**

Assignment No.1 : Python program to count the number of vowels in a string

### **LAB PRACTICE PROGRAMS:**

- 1.Python program to replace all occurrences of 'a' with \$ in a string.
- 2.Python program to remove the nth index character from a non-empty string.
- 3.Python program to form a new string where the first character and the last character have been exchanged.
- 4.Python program to take in a string and replace every blank space with hyphen.
- 5.Python program to calculate the length of a string without using a library function.
- 6.Python program to remove the characters of odd index values in a string.



### **VIVA-VOCE QUESTIONS :**

1. What is docstring?
2. How will you convert a string to an int in python?
3. How will you convert a string to a long in python?
4. How will you convert a string to a float in python?
5. How will you convert a object to a string in python?
6. How will you convert a string to a tuple in python?
7. How will you convert a string to a list in python?
8. How will you convert a string to a set in python?
9. How will you replaces all occurrences of old substring in string with new string?
10. How will you remove all leading and trailing whitespace in string?
11. What is the difference between del() and remove() methods of list?

## **Experiment No: 6**

**Title:** Python program to check if a substring is present in a given string.

**Theory/Description:**

1.Explain python find method with its syntax and example.

**Algorithm:**

- 1.Take a string and a substring from the user and store it in separate variables.
- 2.Check if the substring is present in the string using find() in-built function.
- 4.Print the final result.
- 5.Exit.

**Program:**

**Result/Output :**

```
Enter string:Hello world
Enter word:world
Substring in string!
```

**Conclusion ( must include analysis of program):**-----

**LAB PRACTICE ASSIGNMENT:**

Assignment No.1 : Python program that displays which letters are in the first string but not in the second.

**LAB PRACTICE PROGRAMS:**

- 1.Python program to calculate the number of words and the number of characters present in a string.
- 2.Python program to take in two strings and display the larger string without using built-in functions.
- 3.Python program to count number of lowercase characters in a string.
- 4.Python program to calculate the number of upper case letters and lower case letters in a string.

5. Python program to accept a hyphen separated sequence of words as input and print the words in a hyphen-separated sequence after sorting them alphabetically.
6. Python program to calculate the number of digits and letters in a string.
7. Python program to form a new string made of the first 2 and last 2 characters from a given string.

**VIVA-VOCE QUESTIONS :**

1. How to convert a string to all lowercase?
2. How will you check in a string that all characters are digits?
3. How will you capitalizes first letter of string?
4. How will you check in a string that all characters are in lowercase?
5. How will you check in a string that all characters are numerics?
6. How will you check in a string that all characters are whitespaces?
7. How will you check in a string that all characters are in uppercase?
8. How will you merge elements in a sequence?
9. How will you get the length of the string?

## Experiment No: 7

**Title:** Python program to map two lists into a dictionary.

**Theory/Description:**

1.Explain python dictionary functions and methods with its syntax and examples.

**Algorithm:**

- 1.Declare two empty lists and initialize them to an empty list.
- 2.Consider a for loop to accept values for the two lists.
- 3.Take the number of elements in the list and store it in a variable.
- 4.Accept the values into the list using another for loop and insert into the list.
- 5.Repeat 4 and 5 for the values list also.
- 6.Zip the two lists and use dict() to convert it into a dictionary.
- 7.Print the dictionary.
8. Exit.

**Program:**

**Result/Output :**

```
Enter number of elements for dictionary:3
For keys:
Enter element1:1
Enter element2:2
Enter element3:3
For values:
Enter element1:1
Enter element2:4
Enter element3:9
The dictionary is:
{1: 1, 2: 4, 3: 9}
```

**Conclusion ( must include analysis of program):**-----

### **LAB PRACTICE PROGRAMS:**

1. Python program to add a key-value pair to the dictionary.
2. Python program to concatenate two dictionaries into one.
3. Python program to check if a given key exists in a dictionary or not.
4. Python program to generate a dictionary that contains numbers (between 1 and n) in the form (x,x\*x).

### **VIVA-VOCE QUESTIONS :**

1. What is dictionary in Python?
2. How will you create a dictionary in python??
3. How to get all the keys from the dictionary?
4. How to get all the values from the dictionary?
5. When to choose dictionary instead of a list?
6. Write a function to sort a list?
7. Explain Python's zip() function?
8. Write a function to compare two lists?
9. How will you create a dictionary using tuples in python?

## **Experiment No: 8**

**Title:** Python program to count the frequency of words appearing in a string using a dictionary.

### **Theory/Description:**

1.Explain python dictionary functions and methods with its syntax and examples.

### **Algorithm:**

- 1.Enter a string and store it in a variable.
- 2.Declare a list variable and initialize it to an empty list.
- 3.Split the string into words and store it in the list.
- 4.Count the frequency of each word and store it in another list.
- 5.Using zip() function, merge the lists containing the words and the word counts into a dictionary.
- 6.Print the final dictionary.
- 7.Exit.

### **Program:**

### **Result/Output :**

```
Enter string:hello world program world test  
{'test': 1, 'world': 2, 'program': 1, 'hello': 1}
```

**Conclusion ( must include analysis of program):**-----

### **LAB PRACTICE PROGRAMS:**

- 1.Python program to sum all the items in a dictionary.
- 2.Python program to multiply all the items in a dictionary.

**VIVA-VOCE QUESTIONS :**

1. What is dictionary in Python?
2. How will you create a dictionary in python??
3. How to get all the keys from the dictionary?
4. How to get all the values from the dictionary?
5. When to choose dictionary instead of a list?
6. Write a function to sort a list?
7. Explain Python's zip() function?
8. Write a function to compare two lists?
9. How will you create a dictionary using tuples in python?

## Experiment No: 9

**Title:** Python program to create a dictionary with key as first character and value as words starting with that character.

### **Theory/Description:**

1.Explain python dictionary functions and methods with its syntax and examples.

### **Algorithm:**

- 1.Enter a string and store it in a variable.
- 2.Declare an empty dictionary.
- 3.Split the string into words and store it in a list.
- 4.The frequency of each word in the list is counted using list comprehension and the count() function.
- 5.Using a for loop and if statement check if the word already present as a key in the dictionary.
- 6.If it is present, add the word as the value to the corresponding sublist.
- 7.Print the final dictionary.
- 8.Exit.

### **Program:**

### **Result/Output :**

```
Enter string:python is my most favourite programming language in the entire world
{'e', ':', ['entire']},{'f', ':', ['favourite']},{'i', ':', ['in', 'is']},{'m', ':', ['most', 'my']},
{'l', ':', ['language']},{'p', ':', ['programming', 'python']},{'t', ':', ['the']},
{'w', ':', ['world']}
```

**Conclusion ( must include analysis of program):**-----



### **LAB PRACTICE PROGRAMS:**

1. Python program to remove the given key from a dictionary.
2. Python program to form a dictionary from an object of a class.

### **VIVA-VOCE QUESTIONS :**

1. What is dictionary in Python?
2. How will you create a dictionary in python??
3. How to get all the keys from the dictionary?
4. How to get all the values from the dictionary?
5. When to choose dictionary instead of a list?
6. Write a function to sort a list?
7. Explain python's zip() function?
8. Write a function to compare two lists?
9. How will you create a dictionary using tuples in python?

## **Experiment No: 10**

**Title:** Python program to find the length of a list using recursion.

**Theory/Description:**

1.Explain recursion in Python.

**Algorithm:**

- 1.Define a recursive function which takes a list as the argument.
- 2.Initialize a variable to a list.
- 3.In the function, put the condition that if it is not the original list, return 0.
- 4.Otherwise, recursively call the function to find the length of the list.
- 5.Print the final result of the string.
- 6.Exit.

**Program:**

**Result/Output :**

Length of the string is:----

**Conclusion ( must include analysis of program):**-----

### **LAB PRACTICE ASSIGNMENT:**

Assignment No.1 : Python program to find the binary equivalent of a number without using recursion.

### **LAB PRACTICE PROGRAMS:**

- 1.Python program to find the fibonacci series without using recursion.
- 2.Python program to find the factorial of a number without recursion.
- 3.Python program to flatten a list without using recursion.
- 4.Python program to reverse a string without using recursion.

**VIVA-VOCE QUESTIONS :**

1. In Python, What is slicing?
  2. What is the importance of functions in python?
  3. Why programmers need to choose a function programming in python?
  4. What is function call and function definition?
  5. What is parameter/argument?
  6. What is Recursive function? Give example.
  7. What is the purpose of return statement?
- .

## **Experiment No: 11**

**Title:** Python program to read a file and capitalize the first letter of every word in the file.

**Theory/Description:**

1.Explain python file modes and methods with its syntax and examples.

**Algorithm:**

- 1.Take the file name from the user.
- 2.Read each line from the file and use the title() function to capitalize each word in the line.
- 3.Print the altered lines of the file.
- 4.Exit.

**Program:**

**Result/Output :**

```
Contents of file:
hello world
hello
Output:
Enter file name: read.txt
Hello World
Hello
```

**Conclusion ( must include analysis of program):**-----

**LAB PRACTICE ASSIGNMENT:**

Assignment No.1 : Python program to append the contents of one file to another file.

**LAB PRACTICE PROGRAMS:**

- 1.Python program to read the contents of a file.
- 2.Python program to count the number of words in a text file.
- 3.Python program to count the number of lines in a text file.
- 4.Python program to read a string from the user and append it into a file.
- 5.python program to count the occurrences of a word in a text file.
- 6.Python program to copy the contents of one file into another.

**VIVA-VOCE QUESTIONS :**

- 1.What is file?
- 2.Explain all the file processing modes supported by Python?
- 3.What is text file and binary file?
- 4.What are different file object attributes in python?
- 5.How to write text in to a file?
- 6.How to read text from the file?
- 7.How to get the position of the file pointer?
- 8.How to rename existing file?
- 9.How to delete file from directory?
- 10.What is the difference between r+ and w+ modes?
- 11.What is the purpose of tell()?
- 12.Which function is used to read single line from file?

## Experiment No: 12

**Title:** Python program to read the contents of a file in reverse order.

**Theory/Description:**

1.Explain python file modes and methods with its syntax and examples.

**Algorithm:**

- 1.Take the file name from the user.
- 2.Read each line from the file using for loop and store it in a list.
- 3.Print the elements of list in reverse order.
- 4.Exit.

**Program:**

**Result/Output :**

Contents of file:

```
hello world
hello
```

Output:

```
Enter file name: read.txt
hello
hello word
```

**Conclusion ( must include analysis of program):**-----

**LAB PRACTICE PROGRAMS:**

1. Python program that reads a text file and counts the number of times a certain letter appears in the text file.
- 2.Python program to read a text file and print all the numbers present in the text file.
- 3.Python program to count the number of blank spaces in a text file.

**VIVA-VOCE QUESTIONS :**

- 1.What is file?
- 2.Explain all the file processing modes supported by Python?
- 3.What is text file and binary file?
- 4.What are different file object attributes in python?
- 5.How to write text in to a file?
- 6.How to read text from the file?
- 7.How to get the position of the file pointer?
- 8.How to rename existing file?
- 9.How to delete file from directory?
- 10.What is the difference between r+ and w+ modes?
- 11.What is the purpose of tell()?
- 12.Which function is used to read single line from file?

## Experiment No: 13

**Title:** Python Program to create a class in which one method accepts a string from the user and another prints it.

### **Theory/Description:**

- 1.What is object/class?
- 2.How to create object/class?
- 3.Explain `__init__()` Function.
- 4.Explain object methods,self parameter.
- 5.How to modify object properties?

### **Algorithm:**

- 1.Create a class and using a constructor initialize values of that class.
- 2.Create two methods called as get which takes in the value of a string and another called put that prints the string.
- 3.Create an object for the class.
- 4.Using the object, call both the methods.
- 5.The string is printed.
- 6.Exit

### **Program:**

### **Result/Output:**

The string is:-----

**Conclusion ( must include analysis of program):**-----

### **LAB PRACTICE ASSIGNMENT:**

Assignment No.1 : Python program to create a class which performs basic calculator operations.



**LAB PRACTICE PROGRAMS:**

1. Python program to find the area of a rectangle using classes.
2. Python program to append, delete and display elements of a list using classes.
3. Python program to find the area of a rectangle using classes.
4. Python program to create a class and compute the area and the perimeter of the circle.

**VIVA-VOCE QUESTIONS :**

1. What is object/Class?
2. How to create object/class?
3. Explain `__init__()` Function.
4. Explain object methods?
5. Explain self parameter.
5. How to modify object properties?
6. How to delete object?

## **Experiment No: 14**

**Title:** Study and Implementation of Database, Structured Query Language and database connectivity.

**Objective:**

**Theory/Description:**

- 1.What is Database?
- 2.Describe SQL,DDL,DML and DQL.
- 3.Installation steps of MySQL on Linux in python.
- 4.Installation steps of SQLite on Linux in python.
- 5.Installation steps of mysql-connector python
- 6.Explain connect(),cursor(),execute(),fetchall(),commit(),close() .
- 7.Database connectivity in python.

**commands:**

**Result/Output :**

**Conclusion ( must include analysis of program):**-----

**VIVA-VOCE QUESTIONS :**

- 1.What is Database?
- 2.Describe SQL,DDL,DML and DQL.
- 3.What are different engines?
- 4.Explain connect(),cursor(),execute(),fetchall(),commit(),close().
- 5.SQL queries.