

Sarvajani College of Engineering and Technology  
GUJARAT TECHNOLOGICAL UNIVERSITY  
B.E – IV (Semester: 8)  
Information Technology  
Python Programming (2180711)

**Practical List**

**Sr.No    Course content**

- |     |  |       |       |   |   |    |    |     |     |     |     |       |       |
|-----|--|-------|-------|---|---|----|----|-----|-----|-----|-----|-------|-------|
| 1   | Print Hello World.   |       |       |   |   |    |    |     |     |     |     |       |       |
| 2   | To display the sum of two numbers.   |       |       |   |   |    |    |     |     |     |     |       |       |
| 3   | Calculate area of circle.  |       |       |   |   |    |    |     |     |     |     |       |       |
| 4   | Accept a number from keyboard and test whether the given number is even or odd.  |       |       |   |   |    |    |     |     |     |     |       |       |
| 5   | To display numbers from 1 to 10 using while loop.  |       |       |   |   |    |    |     |     |     |     |       |       |
| 6   | To display even numbers between X and Y.   |       |       |   |   |    |    |     |     |     |     |       |       |
| 7   | To display the elements of a list using for loop.  |       |       |   |   |    |    |     |     |     |     |       |       |
| 8   | Draw following patterns using nested loops.  |       |       |   |   |    |    |     |     |     |     |       |       |
|     | <table border="0" style="width: 100%;"><tr><td style="text-align: center;">*</td><td style="text-align: center;">1</td><td style="text-align: center;">*</td><td style="text-align: center;">1</td></tr><tr><td style="text-align: center;">**</td><td style="text-align: center;">12</td><td style="text-align: center;">* *</td><td style="text-align: center;">2 2</td></tr><tr><td style="text-align: center;">***</td><td style="text-align: center;">123</td><td style="text-align: center;">* * *</td><td style="text-align: center;">3 3 3</td></tr></table> | *     | 1     | * | 1 | ** | 12 | * * | 2 2 | *** | 123 | * * * | 3 3 3 |
| *   | 1  | *     | 1     |   |   |    |    |     |     |     |     |       |       |
| **  | 12   | * *   | 2 2   |   |   |    |    |     |     |     |     |       |       |
| *** | 123  | * * * | 3 3 3 |   |   |    |    |     |     |     |     |       |       |
| 9   | Write a Python function to swap two numbers.   |       |       |   |   |    |    |     |     |     |     |       |       |
| 10  | Write a Python function to find the greatest of 3 numbers.   |       |       |   |   |    |    |     |     |     |     |       |       |
| 11  | Write a Python function to find the roots of a quadratic equation.   |       |       |   |   |    |    |     |     |     |     |       |       |
| 12  | Write a Python function to evaluate factorial function using while loop.   |       |       |   |   |    |    |     |     |     |     |       |       |
| 13  | Write a Python function to test whether a given number is prime or not.  |       |       |   |   |    |    |     |     |     |     |       |       |
| 14  | Write a Python function to generate Fibonacci series till given number.  |       |       |   |   |    |    |     |     |     |     |       |       |
| 15  | A python program that helps to know the effects of slicing operations on an array.   |       |       |   |   |    |    |     |     |     |     |       |       |
| 16  | A python program to sort the array elements using bubble sort technique.   |       |       |   |   |    |    |     |     |     |     |       |       |
| 17  | A python program to search for the position of an element in an array using index( ) method.   |       |       |   |   |    |    |     |     |     |     |       |       |
| 18  | A python program to accept two matrices and find their product.  |       |       |   |   |    |    |     |     |     |     |       |       |
| 19  | A python program to find the number of words in a string.  |       |       |   |   |    |    |     |     |     |     |       |       |
| 20  | A python program to insert a sub string in a string in a particular position.  |       |       |   |   |    |    |     |     |     |     |       |       |
| 21  | A python program to know how many times an element occurred in the list.   |       |       |   |   |    |    |     |     |     |     |       |       |
| 22  | A python program to sort a tuple with nested tuples.   |       |       |   |   |    |    |     |     |     |     |       |       |
| 23  | A python program to convert the elements of two lists into key-value pairs of a dictionary.  |       |       |   |   |    |    |     |     |     |     |       |       |

- 24 A python program to create a Bank class where deposits and withdrawals can be handled by using instance methods.
- 25 A python program to implement multiple inheritance using two base classes.
- 26 A python program to overload greater than (>) operator to make it act on class objects.
- 27 A python program to handle the ZeroDivisionError exception.
- 28 A python program to count the number of lines, words and characters in a text file.
- 29 A python program to create a regular expression to retrieve all words starting with 'a' in a given string.
- 30 A python program to create a regular expression to search for a word at the end of a string.
- 31 A python program to show method overloading to find sum of two or three numbers.
- 32 A python program to call super class constructor in the sub class using super().
- 33 A python program to implement binary search.
- 34 A python program to implement selection sort.
- 35 A python program to implement merge sort.
- 36 Practice PyLab.
- 37 Implement RSA algorithm in Python.
- 38 Implement Playfair cipher in Python.
- 39 Practice drawing using Turtle.
- 40 Practice drawing using Tkinter.

Dr. Vivaksha Jariwala

Prof. Dhanalakshmi Manickaraj

Dr. Mita Parikh  
(Head)