GUJARAT TECHNOLOGICAL UNIVERSITY
MASTERS IN COMPUTER APPLICATION
Year – 2 (Semester – III) (W.E.F. JULY 2018)

Subject Name: Programming in Python
Subject Code: 4639304_Practical List

A. List of Practical Related to Python:

Part I:

1	Write a Python Program to Convert Celsius to Fahrenheit and vice –a-versa.
2	Write a program in python to swap two variables without using temporary variable.
3	Write a Python Program to Convert Decimal to Binary, Octal and Hexadecimal
4	Write a program to make a simple calculator (using functions).
5	Write a program in python to find out maximum and minimum number out of three user entered number.
6	Write a program which will allow user to enter 10 numbers and display largest odd number from them. It will display appropriate message in case if no odd number is found.
7	Write a Python program to check if the number provided by the user is an Armstrong number.
8	Write a Python program to check if the number provided by the user is a palindrome or not.
9	Write a Python program to perform following operation on given string input: a) Count Number of Vowel in given string b) Count Length of string (donot use len()) c) Reverse string d) Find and replace operation e) check whether string entered is a palindrome or not
10	Define a procedure histogram() that takes a list of integers and prints a histogram to the screen. For example, histogram([4, 9, 7]) should print the following: **** ********* *******
11	Write a program in python to implement Fibonacci series up to user entered number. (Use recursive Function)
12	Write a program in python to implement Factorial series up to user entered number. (Use recursive Function)
	Write a program in python to implement simple interest and compound interest values on chart using PyLab. Show the difference between both. (Note: Use of object oriented paradigm is compulsory.)
13	Write a program in Python to implement readline, readlines, write line and writelines file handling mechanisms.
14	Write a program in python to implement Salary printing file read operation. (File format: EmployeeNo, name, deptno, basic, DA, HRA, Conveyance) should perform below operations. a) Print Salary Slip for given Employee Number b) Print Employee List for Given Department Number
15	Write a program in python to implement Railway Reservation System using file handling technique. System should perform below operations. a. Reserve a ticket for a passenger. b. List information all reservations done for today's trains.

	(Note: Use of object oriented paradigm is compulsory.)
16	Write a program in python to implement Library Management System using file handling technique. System should perform below operations. a. Issue a book for student. b. List information today's issued books. (Note: Use of object oriented paradigm is compulsory.)
17	Write a program in python to implement Bank System using Class and Methods and perform below operations. (Note: Use of object oriented paradigm is compulsory.) a) Add Bank account b) Deposit of money c) withdrawal operation d) Money transfer e) Show Balance
18	A Python program to display employee id numbers on X-axis and their salaries on Y-axis in the form a bar graph.
19	A program to display a histogram showing the number of employees in specific age groups.
20	A program to display a pie chart showing the percentage of employees in each department of a company.
21	A program to create a line graph to show the profits of a company in various years.
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Part II: Advanced Topic: Regular Expression

1	Create Regular Expressions that
	a) Recongnize following strings bit, but, bat, hit, hat or hut
	b) Match any pair of words separated by a single space, that is, first and last names.
	c) Match any word and single letter separated by a comma and single space, as in last name, first initial.
	d) Match simple Web domain names that begin with www and end with a ".com" suffix; for example, www.yahoo.com. Extra Credit: If your regex also supports other high-level domain names, such as .edu, .net, etc. (for example: www.foothill.edu).
	e) Match a street address according to your local format (keep your regex general enough to match any number of street words, including the type designation). For example, American street addresses use the format: 1180 Bordeaux Drive. Make your regex flexible enough to support multi-word street names such as: 3120 De la Cruz Boulevard.
2	Create utility script to process telephone numbers such that
	a. Area codes (the first set of three-digits and the accompanying hyphen) are optional, that is, your regex should match both 800-555-1212 as well as just 555-1212.
	b. Either parenthesized or hyphenated area codes are supported, not to mention optional; make your regex match 800-555-1212, 555-1212, and also (800) 555-1212.
3	Chapter End Practical List of Main Text Book

Part III: Database

1	Create Web Database Application "Address Book" with options to a) add/ insert a record , b) modify a record , c) display a record d) delete a record

2	A Python program to retrieve all rows from employee table and display thecolumn values in tabular form.
3	A program to read CSV file and upload data into table
4	A program to retrieve all rows from employee table and dump into CSV file.

Part IV: Thread and Networking (Desirable)

1	A Python program to find the currently running thread in a Python program.
2	A Python program to create a thread and use it to run a function.
3	A program where two threads are acting on the same method to allot a berth for the passenger.
4	A Python program to find the IP Address of a website.
5	A Python program that reads the source code of a Web page.
6	A Python program to download a Web page from Internet and save it into our computer.
7	A Python program to create a basic chat server program in Python.
8	Creating a basic chat client program in Python.
9	A Python program to create a TCP/IP server program that sends messages to a client.
10	A Python program to create TCP/IP client program that receives messages from the server.
11	A Python program to create a UDP server that sends messages to the client.
12	A Python program to create a UDP client that receives messages from the server.