COLLEGE OF ENGINEERING, TRIVANDRUM

DEPARTMENT OF COMPUTER APPLICATIONS

PROGRAMMING LAB – 20MCA131 (S1 MCA)

LIST OF EXPERIMENTS

CYCLE - I

1. Write a python program to find the area of a circle.
2. Write a python program to convert temperature from Celsius to Fahrenheit.
3. Write a python program to swap two numbers without using temporary variables.
4. Write a python program to prompt the user for a list of integers. For all values greater than 100, store 'over' instead.
5. Write a python program to enter 2 lists of integers. Check (a) Whether lists are of same length (b) whether list sums to same value (c) whether any value occurs in both.
6. Write a python program to read a list of integers, create a list removing even numbers.
7. Write a python program to print out all colors from color-list1 not contained in color-list2.
8. Write a python program to sort the dictionary in ascending and descending order.
9. Write a python program to merge two dictionaries.
10. Write a python program to find gcd of 2 numbers.

CYCLE II

11. Write a python program to generate a positive list of numbers from a given list of integers using List comprehensions.
12. Write a python program to form a list of vowels selected from a given word using List comprehensions.
13. Write a python program to accept a file name from the user and print extension of that.

14. Write a python program to create a single string separated with space from two strings by swapping the character at position 1.
15. Write a python program to get a string from an input string where all occurrences of the first character are replaced with '$', except the first character.[eg: onion -> oni$n]
16. Write a python program to count the occurrences of each word in a line of text.
17. Write a python program to check whether a given year is a leap year or not.
18. Write a python program to check whether a given number is prime or not.
19. Write a python program to check whether a given number is Armstrong or not.
20. Write a python program to check whether a given string is palindrome or not.

CYCLE III

21. Write a python program to find the factorial of a number using functions.
22. Write a python program to generate Fibonacci series of N terms using functions.
23. Write a python program to display the given pyramid with step number accepted from user using functions.

    Eg: N=4

    1

    2 4

    3 6 9

    4 8 12 16

24. Write a python program to accept a list of words and return the length of the longest word.
25. Write a python program to generate all factors of a number.
26. Write lambda functions to find area of square, rectangle and triangle.
27. Create a package graphics with modules rectangle, circle and sub-package 3D-graphics with modules cuboid and sphere. Include methods to find area and perimeter of respective figures in each module. Write programs that find the area and perimeter of figures by different importing statements.

CYCLE IV

28. Create a Rectangle class with attributes length and breadth and methods to find area and perimeter. Compare two Rectangle objects by their area.
29. Create a Bank account with members account number, name, type of account and balance. Write constructor and methods to deposit at the bank and withdraw an amount from the bank.
30. Create a class ‘Employee’ with data members Empid, Name, Salary, Address and constructors to initialize the data members. Create another class ‘Teacher’ that inherits the properties of class employee and contain its own data members department, Subjects taught and constructors to initialize these data members and also include a display function to display all the data members. Create two objects to implement this.