BANGALORE INSTITUTE OF TECHNOLOGY

(Affiliated to Visvesvaraya Technological University, Belagavi, Recognised by AICTE, New Delhi)
K.R. Road, V.V. Pura, Bengaluru – 560 004. Phone: 26613237/26615865 Fax: 22426796

Department of Artificial Intelligence & Machine Learning

Faculty: Dr.Jyothi D G Date:2nd August 2023

PART B – Practical Based Learning(PYTHON LAB)

A problem statement for each batch is to be generated in consultation with the co-examiner and student should develop an algorithm, program and execute the program for the given problem with appropriate outputs.

List of programs for practice:

1. Given a string, write a Python script to find the print the EVEN length words.
2. Write a Python code to count number of substrings of a string.
3. Python to program to extract the url from the given input string
4. Write a Python program to calculate gross pay
5. Python program for passing multiple arguments to a function
6. Write a function named collatz() that has one parameter named number. If number is even, then collatz() should print number // 2 and return this value.
   If number is odd, then collatz() should print and return 3 * number + 1.
   Then write a program that lets the user type in an integer and that keeps calling collatz() on that number until the function returns the value 1.

7. **Fantasy Game Inventory**: You are creating a fantasy video game. The data structure to model theplayer's inventory will be a dictionary where the keys are string values describing the item in the inventory and the value is an integer value detail ing how many of that item the player has.

   Eg: The dictionary value
   {'rope': 1, 'torch': 6, 'gold coin': 42, 'dagger': 1, 'arrow': 12} means the player has 1 rope, 6 torches, 42 gold coins, and so on.
   Write a function named displayInventory() that would take any possible "inventory" and display it like the following:
   Inventory:
   12 arrow
   42 gold coin
   1 rope
   6 torch
   1 dagger
   Total number of items: 62

8. **Strong Password Detection:** Write a function that uses regular expressions to make sure the password string it is passed is strong. A strong password is defined as one that is at

least eight characters long, contains both uppercase and lowercase charac ters, and has at least one digit. You may need to test the string against mul tiple regex patterns to validate its strength.

9. Create a Mad Libs program that reads in text files and lets the user add their own text anywhere the word ADJECTIVE, NOUN, ADVERB, or VERB appears in the text file.

Eg:**A text file may look like this:**
The ADJECTIVE panda walked to the NOUN and then VERB. A nearby NOUN was unaffected by these events.

The program would find these occurrences and prompt the user to replace them.
Enter an adjective:
silly
Enter a noun:
chandelier
Enter a verb:
screamed
Enter a noun:
pickup truck
The following text file would then be created:
The silly panda walked to the chandelier and then screamed. A nearby pickup truck was unaffected by these events.
The results should be printed to the **screen and saved to a new text file**

10. Python program for Basic Shop Management System
The program gets the product information from the user on product ID, product Name, product's Rate and product's Stock. Then ask user for updates on shop product for :

1.Show All Product
2.Search By ID
3.Search By Name
4.Sale The Product
5.Make Product Purchase
6.Exit System

Note: The above to be implemented in the lab and printout of the same along with output with soft bind need to submitted to Madhu by 28th August 2023 without fail.
In the final lab exams for PART B questions: 20 Marks is allotted.