Academic Task Number: 01

Course code: CAB113-G2

Date of allotment: 11-Feb-2025

Course Title: **FOUNDATION OF MACHINE LEARNING**

Date of submission: 11-Feb-2025

Maximum Marks: 30 practical + 20 viva

1. You have a list of item prices: [120, 250, 75, 310, 95]. You want to apply a 10% discount to all items that cost more than $100, while keeping the prices of other items unchanged. Write a Python list comprehension to generate a new list with the updated prices.

2. Your kids have completed the following chores: ["Dishes", "Laundry", "Vacuum", "Mop", "Trash"]. You want to create a list of chores that contain the letter 'o'. Write a Python list comprehension to filter out only the chores that include the letter 'o' in their name.

3. You have a list of words:
   words = ["apple", "banana", "cherry", "date", "grape"]
   Write a Python dictionary comprehension to create a dictionary where:
   The keys are the words from the list.
   The values represent the length of each word (i.e., the number of characters in the word).
   Your output should be a dictionary mapping each word to its length.

4. Write a lambda function that generates another function to calculate x^n for a given n.

5. Write a lambda function to find the maximum of three given numbers.

6. Suppose you have a list of coins in a piggy bank, represented as their values
   coins= [1, 5, 10, 25, 50]
   Write a for loop to calculate the total amount of money in the piggy bank.