Lab Report:04

1. Matrix Addition: Write a Python program to add two matrices represented as nested lists.
2.. Flatten Nested List: Write a Python program to flatten a given nested list and convert it into a single-dimensional list.
3. List Element Frequency: Given a nested list containing lists of integers, write a Python program to count the frequency of each element in the entire nested list.
4.. Transpose Matrix: Write a Python program to transpose a given matrix represented as a nested list.
5. List of Lists Concatenation: Given a list of nested lists, write a Python program to concatenate all the sublists into a single flat list.
6. Tuple Concatenation: Write a Python program to concatenate two tuples and create a new tuple.
7. Tuple Unpacking: Given a tuple with three elements (x, y, z), write a Python program to unpack the tuple and assign the values to three variables.
8. Tuple Sorting: Write a Python program to sort a tuple of integers in ascending order.
9. Tuple Frequency Count: Given a tuple containing various elements, write a Python program to count the frequency of a specific element in the tuple.
10. Tuple to List: Write a Python program to convert a tuple into a list.
11. Tuple Reversal: Write a Python program to reverse a tuple without using any built-in functions.
12. Tuple Slicing: Given a tuple, write a Python program to extract a slice of elements from it.
13. Duplicate Removal: Write a Python program that takes a list of elements as input and creates a new set containing only the unique elements from the list.
14. Set Intersection: Given two sets A and B, write a Python program to find their intersection and print the common elements.
15. Dictionary Manipulation: Given a dictionary with student names as keys and their corresponding scores as values, write a Python program to add a new student to the dictionary and update the score of an existing student.
16. Dictionary Keys and Values: Write a Python program that takes a dictionary as input and prints all the keys and values in separate lines.
17. Dictionary Length: Write a Python program to calculate and print the number of key-value pairs in a given dictionary.
18. Dictionary Value Search: Given a dictionary of items and their prices, write a Python program to search for an item based on its price and print the item's name.
19.. Dictionary Merging: Given two dictionaries, write a Python program to merge them into a single dictionary and print the result.
20. Dictionary Key Removal: Given a dictionary of items and their quantities, write a Python program to remove a specific item from the dictionary based on user input.
21. Dictionary Sorting: Given a dictionary with names as keys and corresponding ages as values, write a Python program to sort the dictionary based on age in ascending order.
22. Dictionary Frequency Count: Write a Python program that takes a string as input and creates a dictionary containing each character as a key and its frequency as the value.
23. Dictionary Comprehension: Given a list of integers, write a Python program to create a dictionary where the keys are the elements from the list, and the values are their squares.
24. Dictionary Key Check: Write a Python program that takes a key as input and checks if it exists in a given dictionary. Print "Key Found" if the key is present and "Key Not Found" otherwise.

25. Access Nested Dictionary: Given a nested dictionary containing student details, write a Python program to access and print specific information such as a student's name, age, and address.
26. Nested Dictionary Length: Write a Python program to calculate and print the total number of key-value pairs in a nested dictionary.
27. Nested Dictionary Update: Given a nested dictionary of employee details, write a Python program to update an employee's salary based on their employee ID.
28. Nested Dictionary Sorting: Given a nested dictionary containing product details (product name, price, and quantity), write a Python program to sort the products based on their prices in ascending order