**VAULTOFCODES WEEK-2**

1. Write a program to count word frequencies in a given text.

PROGRAM:

def count\_word\_frequency(text):

text = text.lower()

punctuation\_chars = ".,?!;:'\"()[]{}"

for char in punctuation\_chars:

text = text.replace(char, "")

words = text.split()

word\_frequency = {}

for word in words:

if word in word\_frequency:

word\_frequency[word] += 1

else:

word\_frequency[word] = 1

return word\_frequency

if \_\_name\_\_ == "\_\_main\_\_":

user\_input = input("Enter a text: ")

frequencies = count\_word\_frequency(user\_input)

print("\nWord Frequency:")

for word, count in frequencies.items():

print(f"{word}: {count}")

**OUT PUT:**

Enter a text: Tharun nani is a good boy and tharun studying btech nani is brave boy

Word Frequency:

tharun: 2

nani: 2

is: 2

a: 1

good: 1

boy: 2

and: 1

studying: 1

btech: 1

brave: 1

1. Palindrome Checker Write a program that checks if a given word is a palindrome.

PROGRAM:

def is\_palindrome(s):

clean\_s = ''.join(char.lower() for char in s if char.isalnum())

return clean\_s == clean\_s[::-1]

if \_\_name\_\_ == "\_\_main\_\_":

user\_input = input("Enter a string: ")

if is\_palindrome(user\_input):

print(f"{user\_input} is a palindrome.")

else:

print(f"{user\_input} is not a palindrome.")

**OUTPUT:**

Enter a string: SOS

SOS is a palindrome.

1. List Manipulation Create a list of numbers, then write a program that prints the square of each number in the list.

PROGRAM:

def print\_squares(numbers):

squares = [num \*\* 2 for num in numbers]

return squares

if \_\_name\_\_ == "\_\_main\_\_":

user\_input = input("Enter a list of numbers separated by spaces: ")

numbers = [float(num) for num in user\_input.split()]

result = print\_squares(numbers)

print("Squares:", result)

**OUTPUT:**

**Enter a list of numbers separated by spaces: 2 3.5 6 4 5 9**

**Squares: [4.0, 12.25, 36.0, 16.0, 25.0, 81.0]**