ASSIGNMENT *2* **D.SIVAKARTHIKEYAN**

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

import java.util.HashMap;

import java.util.Map;

import java.util.Scanner;

public class WordFrequencyCounter {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.println("Enter the text: ");

String text = scanner.nextLine();

Map<String, Integer> wordFrequencies = countWords(text);

System.out.println("Word Frequencies:");

for (Map.Entry<String, Integer> entry : wordFrequencies.entrySet()) {

System.out.println(entry.getKey() + ": " + entry.getValue());

}

}

public static Map<String, Integer> countWords(String text) {

// Convert text to lowercase and split into words

String[] words = text.toLowerCase().split("\\s+");

Map<String, Integer> frequencies = new HashMap<>()

for (String word : words) {

Integer count = frequencies.get(word);

if (count == null) {

count = 0;

}

frequencies.put(word, count + 1);

} return frequencies;

}

}

1. Palindrome Checker

public class PalindromeChecker {

public static boolean isPalindrome(String word) {

int n = word.length()

for (int i = 0; i < n / 2; i++) {

if (Character.toLowerCase(word.charAt(i)) != Character.toLowerCase(word.charAt(n - 1 - i))) {

return false;

}

}

return true;

}

public static void main(String[] args) {

String word = "Racecar";

if (isPalindrome(word)) {

System.out.println(word + " is a palindrome.");

} else {

System.out.println(word + " is not a palindrome.");

}

}

}

1. List Manipulation

import java.util.ArrayList;

import java.util.List;

public class NumberSquares {

public static void main(String[] args) {

List<Integer> numbers = new ArrayList<>();

numbers.add(2);

numbers.add(5);

numbers.add(8);

System.out.println("Squares of the numbers:");

for (int number : numbers) {

int square = number \* number;

System.out.println(number + " squared is: " + square);

}

}

}