

Week 2 pdf

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

```
Code: public class FrequencyCounter {  
    public static void main(String[] args) {  
        // Predefined input text  
        String text = "This is a simple simple text text text example example";  
  
        // Split the text into words  
        String[] words = text.split("\\s+");  
  
        // 2D array to store unique words and their frequencies  
        String[][] wordCountArray = new String[words.length][2];  
        int uniqueWordCount = 0;  
  
        for (String word : words) {  
            word = word.toLowerCase(); // Convert word to lowercase for case-insensitive comparison  
            int index = findWord(wordCountArray, uniqueWordCount, word);  
  
            if (index == -1) {
```

```
wordCountArray[uniqueWordCount][0] = word;

wordCountArray[uniqueWordCount][1] = "1";

uniqueWordCount++;

} else {

    // Existing word

    int count = Integer.parseInt(wordCountArray[index][1]);

    wordCountArray[index][1] = Integer.toString(count + 1);

}

}
```

```
// Print the word frequencies

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

for (int i = 0; i < uniqueWordCount; i++) {

    System.out.println(wordCountArray[i][0] + ": " + wordCountArray[i][1]);

}

}
```

```
// Helper method to find the index of a word in the wordCountArray

private static int findWord(String[][] wordCountArray, int uniqueWordCount,
String word) {

    for (int i = 0; i < uniqueWordCount; i++) {

        if (wordCountArray[i][0].equals(word)) {
```

```
    return i;
```

```
  }
```

```
}
```

```
return -1;
```

```
}
```

```
}
```

Que 2. Write a program that check if a given word is a palindrome?

Code:

```
import java.util.Scanner;

public class PalindromeChecker {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        // Prompt the user to enter a word
        System.out.println("Enter a word: ");
        String word = scanner.nextLine();

        // Check if the word is a palindrome
        if (isPalindrome(word)) {
            System.out.println(word + " is a palindrome.");
        } else {
            System.out.println(word + " is not a palindrome.");
        }

        scanner.close();
    }

    // Method to check if a word is a palindrome
    private static boolean isPalindrome(String word) {

        int length = word.length();
```

```
for (int i = 0; i < length / 2; i++) {  
    if (word.charAt(i) != word.charAt(length - i - 1)) {  
        return false;  
    }  
}  
return true;  
}
```

Que 3. create a list of number than write a program that print the square of each number in the list ?

Code:

```
import java.util.ArrayList;
```

```
import java.util.List;
```

```
public class SquareNumbers {
```

```
    public static void main(String[] args) {
```

```
        // Create a list of numbers
```

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

```
        numbers.add(1);
```

```
        numbers.add(2);
```

```
        numbers.add(3);
```

```
        numbers.add(4);
```

```
        numbers.add(5);
```

```
        // Print the square of each number in the list
```

```
        for (int number : numbers) {
```

```
            int square = number * number;
```

```
            System.out.println("The square of " + number + " is " + square);
```

```
        }
```

```
    }
```

```
}
```