

Java Lab Assignments-2(Date of Assignment: 04/05/25)

Problem-1: Palindrome Detector

Objective:

Check if each word in a sentence is a palindrome.

Instructions:

1. Ask the user to input a sentence.
2. Extract all words and store them in an `ArrayList<String>`.
3. Check each word to see if it's a palindrome.
4. Display a list of palindrome words.

Sample Input and Output:

Enter a sentence: Madam Arora teaches malayalam

Palindromes found: madam, arora, malayalam

Problem-2: Word Length Analyzer

Objective:

Analyze the length of each word in a paragraph.

Instructions:

1. Input a paragraph from the user.
2. Split it into words and store them in an `ArrayList`.
3. Create a new `ArrayList<Integer>` that stores the length of each word.
4. Print the word and its length.

Sample Input and Output:

Enter The Paragraph: This is a test. Test is very hard.

Words: This, is, a, test, very, hard

Length: 4, 2, 1, 4, 4, 4

Problem-3: Duplicate Word Remover

Objective:

Remove all duplicate words from a sentence.

Instructions:

1. Input a sentence.
2. Store the words in an `ArrayList`.
3. Use a loop or `HashSet` to remove duplicates.
4. Print the list of unique words.

Sample Input and Output:

Input: Java is great and Java is powerful

Output: Java is great and powerful

Problem-4: Reverse Words in a Sentence**Objective:**

Reverse each word in a sentence individually.

Instructions:

1. Input a sentence.
2. Store words in an `ArrayList`.
3. Reverse each word (not the sentence).
4. Print the reversed words.

Sample Input and Output:

Input: Hello World Java

Output: olleH dlroW avaJ