TASK 1:

import java.util.Scanner;

public class TypingSpeedTest {

// Predefined sentences for the typing test

private static final String[] SENTENCES = {

"The quick brown fox jumps over the lazy dog.",

"Java is a widely-used programming language.",

"Typing fast requires practice and patience.",

"Speed and accuracy are crucial in typing tests.",

"Consistency in typing improves overall efficiency."

};

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

while (true) {

// Step 1: Select a random sentence

String testSentence = getRandomSentence();

System.out.println("\nType the following sentence as quickly and accurately as possible:");

System.out.println("\n\"" + testSentence + "\"");

System.out.println("\nPress Enter when you are ready...");

scanner.nextLine(); // Wait for user to start

// Step 2: Start timer

long startTime = System.currentTimeMillis();

// Step 3: Get user input

System.out.println("\nStart typing now:");

String userInput = scanner.nextLine();

// Step 4: End timer

long endTime = System.currentTimeMillis();

// Step 5: Calculate results

double timeTaken = (endTime - startTime) / 1000.0;

int wpm = calculateWPM(userInput, timeTaken);

double accuracy = calculateAccuracy(testSentence, userInput);

// Step 6: Display results

displayResults(wpm, accuracy, timeTaken);

// Step 7: Ask if user wants to restart

System.out.print("\nDo you want to try again? (yes/no): ");

String retry = scanner.nextLine().trim().toLowerCase();

if (!retry.equals("yes")) {

System.out.println("\nThank you for using the Typing Speed Test!");

break;

}

}

scanner.close();

}

// Function to select a random sentence

private static String getRandomSentence() {

int index = (int) (Math.random() \* SENTENCES.length);

return SENTENCES[index];

}

// Function to calculate WPM

private static int calculateWPM(String input, double timeTaken) {

int wordCount = input.split("\\s+").length;

return (int) ((wordCount / timeTaken) \* 60);

}

// Function to calculate accuracy

private static double calculateAccuracy(String original, String userTyped) {

String[] originalWords = original.split("\\s+");

String[] typedWords = userTyped.split("\\s+");

int correctWords = 0;

for (int i = 0; i < Math.min(originalWords.length, typedWords.length); i++) {

if (originalWords[i].equals(typedWords[i])) {

correctWords++

}

}

return ((double) correctWords / originalWords.length) \* 100;

}

// Function to display results

private static void displayResults(int wpm, double accuracy, double timeTaken) {

System.out.println("\n=== Typing Test Results ===");

System.out.println("Words Per Minute (WPM): " + wpm);

System.out.println("Accuracy: " + String.format("%.2f", accuracy) + "%");

System.out.println("Time Taken: " + timeTaken + " seconds");

}

}