TASK 1

1. Generate a random number within a specified range, such as 1 to 100. 2. Prompt the user to enter their guess for the generated number. 3. Compare the user's guess with the generated number and provide feedback on whether the guess is correct, too high, or too low. 4. Repeat steps 2 and 3 until the user guesses the correct number. You can incorporate additional details as follows: 5. Limit the number of attempts the user has to guess the number. 6. Add the option for multiple rounds, allowing the user to play again. 7. Display the user's score, which can be based on the number of attempts taken or rounds won.

import java.util.Random;

import java.util.Scanner;

public class GuessTheNumber {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

Random random = new Random();

System.out.println("Welcome to the Guess the Number Game!");

boolean playAgain = true;

int totalAttempts = 0;

int totalRounds = 0;

while (playAgain) {

// Step 1: Generate a random number

int secretNumber = random.nextInt(100) + 1;

int attempts = 0;

// Step 5: Limit the number of attempts

int maxAttempts = 10;

while (attempts < maxAttempts) {

// Step 2: Prompt the user to enter their guess

System.out.print("Enter your guess (between 1 and 100): ");

int userGuess = scanner.nextInt();

// Step 3: Compare the user's guess and provide feedback

if (userGuess == secretNumber) {

System.out.println("Congratulations! You guessed the correct number " + secretNumber +

" in " + (attempts + 1) + " attempts.");

break;

} else if (userGuess < secretNumber) {

System.out.println("Too low! Try again.");

} else {

System.out.println("Too high! Try again.");

}

attempts++;

}

// Step 7: Display the user's score

if (attempts < maxAttempts) {

totalAttempts += attempts + 1;

totalRounds++;

System.out.println("Your current score: " + totalAttempts + " total attempts, " + totalRounds + " total rounds.");

} else {

System.out.println("Sorry, you've reached the maximum attempts. The correct number was " + secretNumber + ".");

}

// Step 6: Ask if the user wants to play again

System.out.print("Do you want to play again? (yes/no): ");

String playAgainInput = scanner.next().toLowerCase();

playAgain = playAgainInput.equals("yes");

}

System.out.println("Thanks for playing!");

scanner.close();

}

}