

Bonus Task Hangman Solution

Solution.

```
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {

        // Scanner to read the input
        Scanner scanner = new Scanner(System.in);

        // Read the secret word and turn it into an array of characters
        System.out.println("Enter the secret word:");
        char[] word = scanner.nextLine().toCharArray();

        // Array to track guessed letters
        char[] guessedState = new char[word.length];
        for (int i = 0; i < guessedState.length; i++) {
            guessedState[i] = '_';
        }

        // Number of wrong guesses allowed
        int wrongGuessesAllowed = 6;
        int wrongGuesses = 0;

        // To track if the game is won
        int correctGuessesNeeded = word.length;

        // Game loop
        int correctGuesses = 0;
        while (true) {
            System.out.println("\nCurrent progress: ");
            for (char c : guessedState) {
                System.out.print(c + " ");
            }
        }
    }
}
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        System.out.println("\nYou have " + (wrongGuessesAllowed -
wrongGuesses) + " wrong guesses left.");

        // Ask for the next guess
        System.out.print("Guess a letter: ");
        String input = scanner.nextLine().toLowerCase();
        if (input.length() != 1 ||
!Character.isLetter(input.charAt(0))) {
            System.out.println("Invalid input. Please, guess a
single letter.");
            continue;
        }
        char guessedLetter = input.charAt(0);

        // Check and apply the guess
        boolean letterFound = false;
        for (int i = 0; i < word.length; i++) {
            if (word[i] == guessedLetter && guessedState[i] ==
'_' ) {

                guessedState[i] = guessedLetter;
                letterFound = true;
                correctGuesses++;
            }
        }

        // Print a message based on whether the letter was found
        if (!letterFound) {
            wrongGuesses++;
            System.out.println("Wrong guess!");
            if (wrongGuesses == wrongGuessesAllowed) {
                System.out.println("Game Over! The word was: " + new
String(word));
                break;
            }
        } else {
            if (correctGuesses == correctGuessesNeeded) {
                System.out.println("Congratulations! You've guessed
the word: " + new String(word));
            }
        }
    }
}

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                break;
            }
        }
    }

    scanner.close();
}
```