CodeAlpha Internship - Task 1

Hangman Game

Submitted by: Budde Vinuthna

Python Programming Intern

Project Objective:

Develop a console-based Hangman game where:

- A random word is selected from a predefined list.
- The user attempts to guess the word one letter at a time.
- The player is allowed a maximum of 6 incorrect guesses.
- The game displays real-time progress after each guess.
- The game ends with either a win or a loss based on user inputs.

Technologies Used:

- Python 3.x (Console-based Application)

Key Concepts Demonstrated:

- Random module (random.choice)
- String manipulation and formatting
- Control flow: loops and conditionals
- Data structures: lists and sets
- User input validation

Word List Used:

- python, hangman, program, developer, internship

Task Scope (As per Internship Requirements):

- Use of 5 predefined words.
- Limit of 6 incorrect guesses.
- Console-based user interface.
- Utilization of Python core concepts.

```
import random

words = ["python", "hangman", "program", "developer", "internship"]
word_to_guess = random.choice(words)

guessed_letters = set()
incorrect_guesses = 0
max_incorrect_guesses = 6

print("Welcome to Hangman!")
print(f"The word has {len(word_to_guess)} letters.\n")

while incorrect_guesses < max_incorrect_guesses:
       display_word = ' '.join([letter if letter in guessed_letters else '_' for letter in
word_to_guess])
    print(display_word)

    if "_" not in display_word:
        print(f"\nCongratulations! You guessed the word: {word_to_guess}")
        break

    guess = input("Enter a letter: ").lower().strip()

    if len(guess) != 1 or not guess.isalpha():
        print("Please enter a valid single alphabet letter.\n")
        continue

    if guess in guessed_letters:
        print("You already guessed that letter.\n")
        continue

    guessed_letters.add(guess)

    if guess in word_to_guess:
        print("Correct guess!\n")
    else:
        incorrect_guesses += 1
        print(f"Incorrect guess. Attempts left: {max_incorrect_guesses - incorrect_guesses}\n")

if incorrect_guesses == max_incorrect_guesses:
    print(f"You lost! The word was: {word_to_guess}")
```