CLAUDE AI

import random

- import: Python keyword that brings external modules/libraries into the current script
- random: Specific Python standard library module
- Purpose: Allows generation of random selections (like choosing a random word)

2. Function Definitions:

def load_word_list()::

- def: Keyword declaring a function definition
- load_word_list: Function name describing its purpose
- ():: Indicates function takes no arguments
- """Load a list of words for the game.""": Docstring explaining function's purpose
- words = [...]: Creates a list containing specific words
- Each word is a str (string) type
- Function returns this predefined list of words

3. Function generate_masked_word(word):

- def: Function definition keyword
- generate_masked_word: Name describing function's action
- (word): Parameter accepting the word to mask
- return ['_'] * len(word):
    - ['_']: Creates a single-element list with underscore
    - *: Multiplication operator for list replication
    - len(word): Counts characters in input word
    - Generates list of underscores matching word length

4. Main Game Function play_word_guessing_game():

Variables Breakdown:

- word_list = load_word_list():
    - Calls function to get list of words
    - Stores list in word_list variable
- target_word = random.choice(word_list):
    - random.choice(): Selects random item from list

- Stores randomly selected word
- max_attempts = len(target_word) + 3:
  - Calculates max attempts based on word length
  - Adds 3 extra attempts for difficulty balance
- attempts = 0:
  - Tracks number of user's guessing attempts
  - Starts at zero
- score = 100:
  - Initial player score
  - Increases/decreases based on guessing performance
- display_word = generate_masked_word(target_word):
  - Creates masked version of target word
  - Initially shows all underscores
- guessed_letters = set():
  - Creates empty set to track guessed letters
  - set() prevents duplicate letter tracking

5. Game Loop Breakdown:

- while: Continues loop until condition is false
- attempts < max_attempts: Ensures game stops after maximum attempts

Inside Loop:

- " ".join(display_word):
  - join(): Connects list elements with space
  - Converts masked word list to displayable string
- input("Guess a letter or word"):
  - Prompts user for input
  - .lower(): Converts input to lowercase for consistency

Guess Checking Logic:

- if guess == target_word: Checks full word match
- if len(guess) == 1: Checks if single letter guessed

Letter Processing:

- guessed_letters.add(guess): Adds letter to tracked set
- word_updated = False: Flag to track letter correctness
- Nested for loop checks each letter's position

Scoring Mechanism:

- Correct letter: score += 10
- Incorrect letter: score -= 15
- Prevents negative score with max(0, score)

- Main Function:
- `while True`: Infinite loop until explicitly broken
- `play_word_guessing_game()`: Runs game
- `play_again`: Asks user to continue
- `break`: Exits loop if not choosing "yes"

- Script Execution:
- `__name__`: Special Python variable
- `"__main__"`: Indicates script run directly
- `main()`: Calls primary game function

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