```
 1 import random
 2
 3 # Dictionary of words categorized
 4 words_dict = {
 5     "animals": ["cat", "dog", "elephant", "lion", "
   tiger"],
 6     "fruits": ["apple", "banana", "orange", "grape",
   "melon"],
 7     "programming": ["python", "javascript", "java", "
   ruby", "php"]
 8 }
 9
10
11 # Function to display the current state of the word
12 def display_word(word, guessed_letters):
13     return " ".join([letter if letter in
   guessed_letters else "_" for letter in word])
14
15
16 # Function to choose a word from a specific category
17 def choose_word(category):
18     return random.choice(words_dict[category])
19
20
21 # Function to reveal a random letter as a hint
22 def provide_hint(word, guessed_letters):
23     remaining_letters = [letter for letter in word if
    letter not in guessed_letters]
24     if remaining_letters:
25         return random.choice(remaining_letters)
26     return None
27
28
29 # Function to run the hangman game
30 def guess_game():
31     print("Welcome to the Guessing Game!")
32     print("------------------------------")
33
34     # Choose category
35     print("Choose a category:")
36     for category in words_dict.keys():
```

```
37          print(category)
38
39      category = input("\nEnter category: ").lower()
40      while category not in words_dict:
41          print("Invalid category. Please choose from
    the available categories.")
42          category = input("Enter category: ").lower()
43
44      # Randomly choose a word from the selected
    category
45      word = choose_word(category)
46      guessed_letters = set()
47
48      # Difficulty levels
49      difficulty_levels = {
50          "easy": 8,
51          "medium": 6,
52          "hard": 4
53      }
54
55      difficulty = input("Choose difficulty (easy/
    medium/hard): ").lower()
56      while difficulty not in difficulty_levels:
57          print("Invalid difficulty level. Please
    choose from easy, medium, or hard.")
58          difficulty = input("Choose difficulty (easy/
    medium/hard): ").lower()
59
60      attempts_left = difficulty_levels[difficulty]
61
62      print("\nLet's begin!")
63      print("Try to guess the word.")
64
65      while attempts_left > 0:
66          print(f"\nWord: {display_word(word,
    guessed_letters)}")
67          print(f"Attempts left: {attempts_left}")
68
69          guess = input("Guess a letter or type 'hint'
    for a hint: ").lower().strip()
70
```

```
71          # Input validation
72          if guess == 'hint':
73              if attempts_left == 1:
74                  print("Sorry, you cannot use a hint
    on your last attempt.")
75                  continue
76              hint_letter = provide_hint(word,
    guessed_letters)
77              if hint_letter:
78                  print(f"Hint: One of the letters is
     '{hint_letter}'. Using a hint costs one attempt.")
79                  guessed_letters.add(hint_letter)
80                  attempts_left -= 1
81              else:
82                  print("No more hints available.")
83              continue
84
85          if len(guess) != 1 or not guess.isalpha():
86              print("*** Invalid input. Please enter
    only one alphabetic letter. ***")
87              continue
88
89          if guess in guessed_letters:
90              print("You already guessed that letter."
    )
91              continue
92
93          guessed_letters.add(guess)
94
95          if guess in word:
96              print(f"Good job! '{guess}' is in the
    word.")
97              if set(word) <= guessed_letters:
98                  print(f"\nCongratulations! You
    guessed the word: '{word}'")
99                  break
100         else:
101             attempts_left -= 1
102             print(f"Sorry, '{guess}' is not in the
    word.")
103
```

```
104     if attempts_left == 0:
105         print(f"Game over! The word was: '{word}'")
106 
107 
108 # Start the game
109 if __name__ == "__main__":
110     guess_game()
111 
```