

Inquiry Question

*Can the pencil and paper game of Hangman be created and played in Python?
Are there any differences between the paper version and the Python version?*

Name: _____

Date: _____



General Instructions

Hangman is a paper and pencil guessing game. One player thinks of a word, phrase, or sentence and the other player attempts to guess it by suggesting letters. The player has a limited number of incorrect guesses. For each incorrect guess, a part of the stick figure on the noose is added. Once a full stick figure is drawn, the game is over, and the guessing player has lost.

Using Python's "random" module, as well as functions and loops, can you write a Python program in which a user guess words that the computer has chosen randomly?

Materials you'll need:

- Pencil
- Computer

Project submission:

Submit the completed pages of this project as well as the .py code file for your Hangman program.

Design Specifications

- Use at least one list (to store guesses made).
- Only accept valid guesses (letters only). Lowercase and uppercase letters should be accepted.
- Use at least one loop, to prompt the user for each guess.
- Keep track of incorrect guesses, the game is over and the player has lost once the user has made more than the allowed number of incorrect guesses.
- Do not allow a guessed letter to be guessed again.
- After each guess, output the incomplete word (use underscores for hidden letters).
- Choose a word or phrase randomly (can be from a list of hard coded options). Use Python's "random" module.
- Define and use at least 3 functions.

Bonus Options

- Find a better way to select random words other than hard coding them into the program. Could you download a dictionary of words and use that? Could you query a website for a random word?
- [HARD] Create a graphical user interface (GUI) for your Hangman game using the Tkinter module.

Hints and Resources

Here is a full example of how your program might look when you run it in the console.

```
Welcome to Hangman!
Selecting a random word...

-- -- -- -- --
You have 6 incorrect guesses remaining.
Enter a letter to guess: P
Incorrect.

-- -- -- -- --
You have 5 incorrect guesses remaining.
Enter a letter to guess: #
Invalid input, try again...
Enter a letter to guess: p
You already guessed: P. Try again...
Enter a letter to guess: a
Correct! A is in the word 2 times.
A _ _ _ _ A _
You have 5 incorrect guesses remaining.
Enter a letter to guess: b
Correct! B is in the word 1 times.
A B _ _ _ A _
You have 5 incorrect guesses remaining.
Enter a letter to guess: l
Correct! L is in the word 1 times.
A B _ _ _ A L
You have 5 incorrect guesses remaining.
Enter a letter to guess: y
Correct! Y is in the word 1 times.
A B Y _ _ A L
You have 5 incorrect guesses remaining.
Enter a letter to guess: m
Correct! M is in the word 1 times.
A B Y _ M A L
You have 5 incorrect guesses remaining.
Enter a letter to guess: s
Correct! S is in the word 1 times.
Player wins!! The word is: ABYSMAL
There were 1 incorrect guesses made.
```

Questions

Given a list of random words stored in a variable “WORDS”, how will you choose a random word from the list?

Using pseudocode, write a function to detect whether the user has correctly guessed the entire word. The function should accept a list of guesses, as well as the word the user is trying to guess.

What are the differences between your computer version of Hangman and the traditional pencil and paper version? Why are there these differences?

Did you struggle with any particular part of this project? How did you finally resolve the issue?