SKILLS DEVELOPMENT LAB

ASSIGNMENT 2 – HANGMAN

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**Problem Statement**

Build the Hangman Game using Python

**Logic**

1. Starts the game using play\_hangman function.
2. Selects a word at random from words.py file
3. Hides the characters in the word randomly and replaces them with “\_”
4. Displays the hangman states and asks the user to guess a character
5. On a correct guess, reveals the hidden states of those character and updates the list of hidden characters
6. On a wrong guess, reduces the number of tries by 1 and based on that changes the hangman states
7. If all the hidden words are guessed correctly then sets the guessed\_word to True and displays the win message
8. If all the tries are gone I.e., tries = 0 and word is not yet guessed then displays the loser message as well as the loser state of hangman
9. End the game
10. Asks the user if they want to play another game or not.

**Code**

#HANGMAN code python

from words import word\_list

from random import choice,sample,randint

import os

from time import sleep

class Hangman():  ## Define the Hangman class

    def \_\_init\_\_(self) -> None:

        self.hangman\_states = stages = [  # final state: head, torso, both arms, and both legs

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    def get\_word(self) -> str:

        """

        returns a random word at random

        Returns:

            str: random word

        """

        return str(choice(word\_list).upper())

    def display\_state(self,tries : int,word\_completion\_state : list) -> None:

        """

        This Function printes the current state of hangman with

        some preset messages as well as print the remaining tries

        Args:

            tries ([int]): Number of tries remaining

            word\_completion\_state ([list]): The current state of the hidden character

                                            in the word

        """

        print(f"{'-' \* 20}HANGMAN{ '-' \* 20}\n\n")

        print(self.hangman\_states[-(tries+1)] + "\n")

        print(f"WORD ------> {' '.join(word\_completion\_state)}")

        print(f"Tries Remaining : {tries}")

    def play\_hangman(self) -> None:

        """

        Initiates a game of hangman

        Use has 6 tries to complete the word selected at random

        after tries run out or word is guessed , display a win

        or loss message and exit the game

        """

        tries=6

        current\_word=self.get\_word()

        guessed\_word = False

        word\_hidden\_states = [current\_word[indx] for indx in sample(range(0, len(current\_word)-1), randint(1, len(current\_word)-2))]

        word\_completion\_state = [letter if letter not in word\_hidden\_states else "\_" for letter in current\_word]

        while tries > 0 and not guessed\_word:

            os.system('cls' if os.name == 'nt' else 'clear') ## Clear the terminal for new lines to be printed

            self.display\_state(tries,word\_completion\_state)

            guessed\_char=str(input("Guess a Character : ")).upper()

            if guessed\_char in word\_hidden\_states :

                print("\nCorrect Guess !!!!!! Updating..........")

                for indx,\_ in enumerate(word\_completion\_state) :

                    if guessed\_char == current\_word[indx]:

                        word\_completion\_state[indx]=guessed\_char

                word\_hidden\_states = [char for char in word\_hidden\_states if char != guessed\_char]

                guessed\_word = False if "\_" in word\_completion\_state else True

                sleep(1)

            else :

                print("\nIncorrect Guess!!! Updating!!!!!!")

                sleep(1)

                tries=tries-1

        if tries == 0 and not guessed\_word:

            os.system('cls' if os.name == 'nt' else 'clear') ## Clear the terminal for new lines to be printed

            print(f"{'-' \* 20}HANGMAN{ '-' \* 20}\n\n")

            print(self.hangman\_states[-1] + "\n")

            print(f"No Tries Remaining , YOU LOST !!!!!")

            print(f"CORRECT WORD was ------> {current\_word}")

            print(f"GAME OVER")

        if guessed\_word:

            os.system('cls' if os.name == 'nt' else 'clear') ## Clear the terminal for new lines to be printed

            print(f"{'-' \* 20}HANGMAN{ '-' \* 20}\n\n")

            print(self.hangman\_states[-tries] + "\n")

            print(f"YOU GUESSED THE WORD CORRECTLY !!!")

            print(f"WORD was ------> {current\_word}")

            print(f"Congratulations You win")

if \_\_name\_\_ == "\_\_main\_\_":

    hangman=Hangman()

    continue\_choice='y'

    while continue\_choice == 'y':

        hangman.play\_hangman()

        continue\_choice=str(input("Do you want to play another game (Y/n) : "))

        os.system('cls' if os.name == 'nt' else 'clear') ## Clear the terminal for new lines to be printed

**OUTPUT**

Pass Condition











**FAIL**















