CSC1024 PROGRAMMING PRINCPILES

Programming Project: A Master Mind Computer Game

Student Name: Nidal Bencheikh Lehocine
Student ID: 19097617

15 July 2022

YOUTUBE video presentation link:
https://youtu.be/83CLyqZ17sI

PROJECT REQUIREMENTS

- Input and display data.
- Lists.
- Random choice from a list.
- If statement, and relational and logical operators.
- Loops.
- User-defined function.
- Error handling and data validation.

Inputs and display data

EXAMPLE 1:

```
start = input("Enter Y to start the game when you are ready: ").upper()
```

EXAMPLE 2:

```
print("----------------------------------------")
print("            MASTERMIND GAME             ")
print("----------------------------------------")
print("--------How does the game work??--------")
print("1. The computer will generate 4 random fruits and you have to keep guessin
print("2. the respective fruits are apple, orange, banana and kiwi")
print("3. keep in mind you may have more than one fruits in each list")
print("------GOOD LUCK AND HAPPY GUESSING------")
print("----------------------------------------")
```

EXAMPLE 3:

```
while True:
    first_fruit= input("Enter your first fruit: ").upper()
    #this appends the first guess into the guess list mentioned above
```

Lists

EXAMPLE 1:

```
#this is to store the guesses inputted by the player
player_guess= []
```

EXAMPLE 2:

```
#the fruit list for the game
fruit_list=["APPLE", "ORANGE", "BANANA", "KIWI"]
```

Random choice from a list

EXAMPLE 1:

```
#this part imports the random choices to generate the list for the game
import random
from random import choice
```

EXAMPLE 2:

```
#the fruit list for the game
fruit_list=["APPLE", "ORANGE", "BANANA", "KIWI"]

play = "Y"
while play == "Y":
    #this loop generates the random list for the game and would generate a new on
    game_list= []
    for i in range (4):
        game_list.append(random.choice(fruit_list))
```

If statement, and relational and logical operators

EXAMPLE 1:

```
#this if statement is to check whether the player has exceeded the allowe
if tries == 15:
    print(" sorry you could not make the correct guesses but the game is
    print(" This was the list generated by the computer " + str(game_list
is whole part is to ask the player if they want to play again after they f
```

EXAMPLE 2:

```
for i in range (4):
    if player_guess[i] == game_list[i]:
        correct_placement += 1
#this for loop compares the guesses with the list again but to check if t
for i in range (4):
    if player_guess[i] in game_list and player_guess[i] != game_list[i]:
        correct_guess_only += 1

#this if statement will check if the player got all of them correct and w
if correct_placement == 4:
    print(" CONGRATULATIONS!!!, YOU GUESSED CORRECTLY, YOU TOOK " + str(t
    print(" the random generated list was " + str(game_list) )
```

Loops

EXAMPLE 1:

```
while True:
    first_fruit= input("Enter your first fruit: ").upper()
    #this appends the first guess into the guess list mentioned above
    if first_fruit in fruit_list:
        player_guess.append(first_fruit)

        break
    else:
        #this part is to make sure that the input entered by the player i
        print("wrong input!!!, PLEASE enter fruits from the given list on
        print(" APPLE, BANANA, ORANGE, KIWI ")
```

EXAMPLE 2:

```
tries = 1
while tries < 15:
    print("----------------------------------------")
    print ("this is try number " + str(tries))
    #this is to store the guesses inputted by the player
    player_guess= []
```

User-defined function

EXAMPLE 1:

```
def game_start():
    start = "start"
    while start == "start":
        start = input("Enter Y to start the game when you are ready: ").upper()
        if start == "Y":
            print()
            True
        else:
            print("ohh!! leaving so quick D:, hope to see you soon ")
            quit()
```

Error handling and data validation

EXAMPLE 1:

```
while play != "Y" or play != "N":
    print("WRONG INPUT, enter 'Y' to play again or 'N' to quit")
    play = input("Would you like to play again, enter 'Y' to play or 'N' to quit: ").upper()
    break
```

EXAMPLE 2:

```
if third_fruit in fruit_list:
    player_guess.append(third_fruit)

    break
else:
    print("wrong input!!!, PLEASE enter fruits from the given list only, the fruits given are: ")
    print(" APPLE, BANANA, ORANGE, KIWI ")
```