import random

def play\_mastermind():

# First i enter all rules & description of the game.

print("Welcome to the Mastermind Number Guessing Game")

print("Try to guess the 4-digit number. After each guess, you'll be informed")

print("how many digits are correct, and if any of them are in the correct position.")

print("You have 5 chances to guess the correct number.")

print("Note: Please enter exactly 4 digits for each guess, or it will not work correctly. Alos 0 in first letter is not consider as a digit in this game so start with (1-9)")

print("Let's get started \n")

# Here i add my favorite number as a slected number but i also set the number that computer select by it self.

num = 2901

# Give the user 5 chances to guess the correct number

for attempt in range(5):

n = int(input(f"Attempt {attempt + 1}: Guess the 4 digit number: "))

if n == num:

print("Congratulations ! You guessed the number correctly !")

play\_again = input("Do you want to play again? (yes/no): ").lower()

if play\_again == "yes":

play\_mastermind()

else:

print("Thanks for playing, See you soon, Goodbye.")

break

else:

count = 0

n\_str = str(n)

num\_str = str(num)

correct = ['X'] \* 4

# This will check if the user enter only 4 digits as per the description

if len(n\_str) != 4:

print("Please enter exactly 4 digits or read Instructions Again !!!")

continue

for i in range(4):

if n\_str[i] == num\_str[i]:

count += 1

correct[i] = n\_str[i]

print("Not quite the number. But you did get", count, "digit(s) correct.")

print("Guessed numbers in the correct positions:", end=' ')

for k in correct:

print(k, end=' ')

print('\n\n')

# Check if the user guessed correctly within 5 attempts

if n != num:

print(f"Sorry, you've run out of attempts. The correct number was {num}.")

play\_again = input("Do you want to play this game again? (yes/no): ").lower()

if play\_again == "yes":

play\_mastermind()

else:

print("Thanks for playing, See you soon\n ,Goodbye.")

# Start the game

play\_mastermind()