import random

def generate\_secret\_code():

colors = ["R", "G", "B", "Y", "O", "P"] # Replace with your own set of colors

secret\_code = [random.choice(colors) for \_ in range(4)] # You can adjust the code length

return secret\_code

def evaluate\_guess(secret\_code, guess):

correct\_color\_and\_position = 0

correct\_color\_only = 0

for i in range(len(secret\_code)):

if guess[i] == secret\_code[i]:

correct\_color\_and\_position += 1

elif guess[i] in secret\_code:

correct\_color\_only += 1

return correct\_color\_and\_position, correct\_color\_only

def mastermind():

secret\_code = generate\_secret\_code()

max\_attempts = 10 # You can adjust the number of attempts

attempts = 0

print("Welcome to Mastermind! Try to guess the 4-color code.")

while attempts < max\_attempts:

guess = input("Enter your guess (4 colors, e.g., RGBY): ").upper()

if len(guess) != 4 or not all(color in "RGBYOP" for color in guess):

print("Invalid input. Please enter a 4-color code (e.g., RGBY).")

continue

attempts += 1

correct\_color\_and\_position, correct\_color\_only = evaluate\_guess(secret\_code, guess)

print(f"Attempt {attempts}: {guess} - {correct\_color\_and\_position} in the correct position, {correct\_color\_only} correct color only.")

if correct\_color\_and\_position == 4:

print("Congratulations! You've cracked the code.")

break

if correct\_color\_and\_position != 4:

print(f"Out of attempts. The secret code was: {''.join(secret\_code)}")

if \_\_name\_\_ == "\_\_main\_\_":

mastermind()