Password Generator

import random

import string

def generate\_password(length=12):

# Define character sets

uppercase\_letters = string.ascii\_uppercase

lowercase\_letters = string.ascii\_lowercase

digits = string.digits

special\_characters = string.punctuation

# Combine character sets

all\_characters = uppercase\_letters + lowercase\_letters + digits + special\_characters

# Ensure at least one character from each set

password = random.choice(uppercase\_letters) + random.choice(lowercase\_letters) + random.choice(digits) + random.choice(special\_characters)

# Generate the rest of the password

password += ''.join(random.choice(all\_characters) for \_ in range(length - 4))

# Shuffle the password characters for randomness

password\_list = list(password)

random.shuffle(password\_list)

password = ''.join(password\_list)

return password

def generate\_multiple\_passwords(num\_passwords, length=12):

passwords = [generate\_password(length) for \_ in range(num\_passwords)]

return passwords

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

# User input for password generation

try:

password\_length = int(input("Enter the desired password length: "))

num\_passwords = int(input("Enter the number of passwords to generate: "))

except ValueError:

print("Invalid input. Please enter valid numerical values.")

exit()

# Generate and display passwords

passwords = generate\_multiple\_passwords(num\_passwords, password\_length)

print("\nGenerated Passwords:")

for i, password in enumerate(passwords, start=1):

print(f"Password {i}: {password}")