```
import random
import string

def generate_password(length=12):
    # Define character sets for each
category
    uppercase_letters =
string.ascii_uppercase
    lowercase_letters =
string.ascii_lowercase
    digits = string.digits
    special_characters =
string.punctuation

    # Combine all character sets
    all_characters = uppercase_letters
+ lowercase_letters + digits +
special_characters

    # Ensure at least one character
from each set is included in the
password
    password =
[random.choice(uppercase_letters),

random.choice(lowercase_letters),
              random.choice(digits),

random.choice(special_characters)]

    # Fill the rest of the password with
random characters
    password +=
[random.choice(all_characters) for _
in range(length - 4)]

    # Shuffle the password to mix
characters
    random.shuffle(password)

    # Convert the list to a string
    password_str = ''.join(password)

    return password_str

def generate_multiple_pas
swords(num_passwords,
length=12):
    passwords =
[generate_password(length) for _ in
range(num_passwords)]
    return passwords

# Get user input for password length
and number of passwords
password_length = int(input("Enter
the desired password length: "))
num_passwords = int(input("Enter
the number of passwords to
generate: "))

# Generate multiple passwords
passwords = generate_multipl
e_passwords(num_passwords,
password_length)

# Display the generated passwords
print("\nGenerated Passwords:")
for i, password in
enumerate(passwords, start=1):
    print(f"Password {i}: {password}")
```

19:48 ✓✓

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# Generate a random password with
length 16
random_password =
generate_password(16)
print("Random Password:",
random_password)
```

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