Python Tasks Collection

# Task 1: Fix badly-indented code

# Fixed indentation example  
# Before (bad indentation):  
# x=10  
# if x>5:  
# print("x is greater than 5")  
  
# After (correct indentation):  
x = 10  
if x > 5:  
 print("x is greater than 5")

# Task 2: Collect user profile & print typed summary

# Collecting user profile details  
name = input("Enter your name: ")  
age = int(input("Enter your age: "))  
city = input("Enter your city: ")  
  
# Printing a summary  
print(f"Profile Summary:\nName: {name}\nAge: {age}\nCity: {city}")

# Task 3: Swap two variables without temp variable

# Input two numbers  
a = int(input("Enter first number (a): "))  
b = int(input("Enter second number (b): "))  
  
# Swapping without temp variable using arithmetic  
a, b = b, a   
  
print(f"After swapping: a = {a}, b = {b}")

# Task 4: Read three numbers; output average

# Read three numbers  
x = float(input("Enter first number: "))  
y = float(input("Enter second number: "))  
z = float(input("Enter third number: "))  
  
# Calculate average  
avg = (x + y + z) / 3  
print(f"Average = {avg}")

# Task 5: Convert minutes to hours + minutes

minutes = int(input("Enter total minutes: "))  
  
hours = minutes // 60  
remaining\_minutes = minutes % 60  
  
print(f"{minutes} minutes = {hours} hour(s) and {remaining\_minutes} minute(s)")

# Task 6: BMI calculation

# BMI = weight (kg) / height (m)^2  
weight = float(input("Enter weight in kg: "))  
height = float(input("Enter height in meters: "))  
  
bmi = weight / (height \*\* 2)  
print(f"Your BMI is {bmi:.2f}")

# Task 7: Simple Interest Calculator

# Formula: SI = (P \* R \* T) / 100  
p = float(input("Enter Principal amount: "))  
r = float(input("Enter Rate of Interest (%): "))  
t = float(input("Enter Time (years): "))  
  
si = (p \* r \* t) / 100  
print(f"Simple Interest = {si}")

# Task 8: Username Builder from Full Name

full\_name = input("Enter your full name: ")  
  
# Make username = lowercase + replace space with underscore  
username = full\_name.strip().lower().replace(" ", "\_")  
  
print(f"Suggested Username: {username}")

# Task 9: Vowel & Consonant Counter

text = input("Enter a string: ").lower()  
  
vowels = "aeiou"  
vowel\_count = 0  
consonant\_count = 0  
  
for char in text:  
 if char.isalpha(): # only alphabets  
 if char in vowels:  
 vowel\_count += 1  
 else:  
 consonant\_count += 1  
  
print(f"Vowels: {vowel\_count}, Consonants: {consonant\_count}")

# Task 10: Grade Calculator

marks = float(input("Enter your marks (0-100): "))  
  
if marks >= 90:  
 grade = "A"  
elif marks >= 75:  
 grade = "B"  
elif marks >= 60:  
 grade = "C"  
elif marks >= 40:  
 grade = "D"  
else:  
 grade = "F"  
  
print(f"Your Grade = {grade}")

# Task 11: Password Strength Classifier

password = input("Enter a password: ")  
  
strength = "Weak"  
  
if len(password) >= 8:  
 if any(c.isdigit() for c in password) and any(c.isalpha() for c in password):  
 if any(c in "!@#$%^&\*()" for c in password):  
 strength = "Strong"  
 else:  
 strength = "Medium"  
  
print(f"Password Strength: {strength}")

# Task 12: Multiplication Table

n = int(input("Enter a number for multiplication table: "))  
  
for i in range(1, 11):  
 print(f"{n} x {i} = {n\*i}")

# Task 13: Sum of numbers divisible by 3

limit = int(input("Enter the range limit: "))  
  
total = sum(i for i in range(1, limit + 1) if i % 3 == 0)  
print(f"Sum of numbers divisible by 3 up to {limit} = {total}")

# Task 14: CLI Unit Converter (length, weight, temperature)

while True:  
 print("\nUnit Converter Menu")  
 print("1. Length (meters <-> kilometers)")  
 print("2. Weight (kg <-> grams)")  
 print("3. Temperature (Celsius <-> Fahrenheit)")  
 print("4. Exit")  
  
 choice = input("Choose an option: ")  
  
 if choice == "1":  
 meters = float(input("Enter length in meters: "))  
 print(f"{meters} meters = {meters / 1000} kilometers")  
  
 elif choice == "2":  
 kg = float(input("Enter weight in kilograms: "))  
 print(f"{kg} kg = {kg \* 1000} grams")  
  
 elif choice == "3":  
 celsius = float(input("Enter temperature in Celsius: "))  
 fahrenheit = (celsius \* 9/5) + 32  
 print(f"{celsius}°C = {fahrenheit}°F")  
  
 elif choice == "4":  
 print("Exiting Unit Converter. Goodbye!")  
 break  
 else:  
 print("Invalid choice! Please try again.")