Lesson 1: Week 2

Created: 2024-05-27T01:25:45.710299+10:00

Exercise 1: Greetings

Write a program that asks the user for their name, and then prints "Hello, !". Note that represents the content of the variable name.ExampleEnter your name: Ed Hello, Ed!Hint: You'll want to use the input() and print() functions for this challenge.message = input('Message: ') print(message)

Exercise 2: BMI calculator

Write a program that calculates the user's BMI (body mass index). The formula is:$$\text{BMI} = \frac{\text{weight in kilograms}}{(\text{height in meters})^2} $$ExampleWhat is your weight in kg? 70 What is your height in m? 1.82 Your BMI is 21.1

Exercise 3: Odd/even checker

Write a program that asks the user for an integer number and then displays whether the number is odd or even.Example 1:Enter a number: 23The number 23 is odd.Example 2:Enter a number: 10The number 10 is even.

Exercise 4: Temperature conversions

Study the program fahrenheit_to_celsius.py and run it in the Terminal window, executing "python fahrenheit_to_celsius.py". Then complete the program celsius_to_fahrenheit.py that displays a conversion table from Celsius degrees to Fahrenheit degrees, with the former ranging from 0 to 100 in steps of 10; run it and check your solution with the Run and Mark (or Submit) buttons, respectively.See commands_and_expected_outputs.txt for expected output.

Exercise 5: Tax calculator

Write a program that asks the user for her income and then displays the estimated amount of tax on her income. Use the Australian Tax Office's 2022-23 calculation method as shown below:0 – $18,200: Nil $18,201 – $45,000: 19c for each $1 over $18,200 $45,001 – $120,000: $5,092 plus 32.5c for each $1 over $45,000 $120,001 – $180,000: $29,467 plus 37c for each $1 over $120,000 $180,001 and over: $51,667 plus 45c for each $1 over $180,000 You may assume that the user enters a valid income, which is an integer greater than or equal to zero (that is, no decimal places), so you don't need to check for invalid input.Your program only needs to ask for one income, so you don't need it to keep asking for further incomes.You can round the tax to the nearest integer.See ATO's Simple tax calculator.Examples:What was your income in 2022-23? 76000 The estimated tax on your income is $15167What was your income in 2022-23? 125000 The estimated tax on your income is $31317 To help you check your code, here are some sample incomes and the tax your program should calculate: $0 income -> $0 tax $10,000 income -> $0 tax $25,000 income -> $1,292 tax $45,000 income -> $5,092 tax $120,001 income -> $29,467 tax $120,002 income -> $29,468 tax $140,000 income -> $36,867 tax $250,000 income -> $83,167 tax

Exercise 6: Word count

Write a program that asks the user for some text and then says how many words the text contains.You may assume that words are separated by a space.Example:What is your text? The quick brown fox jumped over the lazy dog Your text contains 9 words.

Exercise 7: Acronym maker

Write a program that asks the user for a multi-word name and then returns the corresponding acronym.Example:What is the name? World Health Organisation Its acronym is WHO.

Exercise 8: 24 hour time converter

Write a program that converts 24 hr times to 12 hr times.Examples:What is the time? 0637 0637 is 6:37 amWhat is the time? 1423 1423 is 2:23 pmWhat is the time? 1200 1200 is 12:00 pmWhat is the time? 2400 2400 is 12:00 am