

COMP 10280

Programming I (Conversion)

Practical Sheet 4

Déardaoin, 21 Meán Fómhair 2023

For each of the following programs, the `input` function should be used to prompt the user for appropriate input and read that input from the keyboard. Your programs should give meaningful prompts to the user for input.

1. Write a program that takes as input an amount of currency (a `float`) and an exchange rate to another currency (a `float`) and prints out the value of the original amount in the other currency. For the exchange rate, pick two currencies and use today's exchange rate.

Save this program as `p4p1.py`.

2. Write a program that takes as input a single length (a `float`) and calculates the following:

- The area of a square with side of that length
- The volume of a cube with side of that length
- The area of a circle with radius of that length
- The volume of a sphere with radius of that length
- The volume of a cylinder with radius of that length and side of that length

Import the `math` module and use the constant `math.pi` for the value π .

Save this program as `p4p2.py`.

3. Write a program that takes as input an amount (a `float`), divides the amount in the ratio 60:40, calculates the tax due according to two different tax rates (13.5% on the larger amount and 23% on the smaller), and prints out the initial amount, the two different tax amounts, the total tax and the total amount (initial amount plus taxes).

Save this program as `p4p3.py`.

**Please upload your work to
the Brightspace site before Sunday
evening.**

**You should keep a copy of your programs
for your portfolio.**