COMP 10280
Programming I (Conversion)
Practical Sheet 3
Tuesday, 27 September 2016

For each of the following programs, when asked for a `float`, use the first six digits of your student number as the amount before the decimal point and the last two digits as the amount after the decimal point.

1. Write a program that takes 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. Save this program as `p3p1.py`.

2. Write a program that takes 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 diameter of that length
   - The volume of a sphere with diameter of that length
   - The volume of a cylinder with diameter of that length and side of that length

   You can use 3.1415927 for the value pi. Save this program as `p3p2.py`.

3. Repeat Question 2 using `math.pi` from the Python `math` module. Save this program as `p3p3.py`.

4. Write a program that takes 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 total amount (initial amount plus taxes). Save this program as `p3p4.py`.

Please upload your work to the Moodle site before tomorrow evening.

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