COMP 10280
Programming I (Conversion)
Practical Sheet 10
Thursday, 4 October 2018

For each of the following questions, write an algorithm in pseudocode first before writing a Python program. Submit your algorithms in psuedocode as well as your Python programs.

1. Write a program that prompts the user for an integer and performs *exhaustive enumeration* to find the integer square root of the number. By "exhaustive enumeration", we mean that we start at 0 and succcessively go through the integers, checking whether the square of the integer is equal to the number entered.

   If the number is not a perfect square, the program should print out a message to that effect. The program should exit when a negative number is entered.

   Save this program as `p10p1.py`.

2. Write a program that prompts the user for a series of integers and, for each of the numbers entered, performs *exhaustive enumeration* to find the integer cube root of the number.

   If the number is not a perfect cube, the program should print out a message to that effect. Note that the program should work for negative numbers as well as positive numbers. The program should exit when a 0 is entered.

   Save this program as `p10p2.py`.

3. Write a program that prompts the user for a series of strings and counts and prints out the number of vowels (letters 'a', 'e', 'i', 'o' or 'u') in each string. The program should exit when an empty string is entered.

   Save this program as `p10p3.py`.

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

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