**Week 1 In-Class Exercises (Extra)**

**Q1: [\*\*] 100**

Print number 100 without using any numbers.

**Q2: [\*\*] Factor**

Write a program that prompts the user for two numbers: num1 (type: int) and num2 (type: int). The program then prints whether num1 is a factor of num2.  Assume correct inputs are given. Note that every integer is a factor of 0.

Output of the program:

Enter num1:4

Enter num2:12

4 is a factor of 12: True

Enter num1:5

Enter num2:12

5 is a factor of 12: False

**Q3: [\*\*] Digits**

Write a program that prompts the user for a 5-digit number, then prints the sum of the digits. (you may assume at this point of progress of learning that the input has 5 digits)

Output of the program:

Enter number: 34901

3 + 4 + 9 + 0 + 1 = 17

**Q4: [\*\*] Time**

Write a program that prompts the user for an integer representing a time in seconds, and converts it to hours, minutes, and seconds, in the format H:M:S.

Output of the program:

Enter time in seconds: 5000

5000 seconds is 01:23:20 (HH:MM:SS)

**Q5: [\*\*] Squares and Cubes**

Write a program that displays the squares and cubes of numbers from 0 to 10, and uses tab characters (\t) to separate the output into columns. You have not yet learnt loop structures, so you can write code to calculate the 10 lines of output as follows:

N N^2 N^3

0 0 0

1 1 1

2 4 8

3 9 27

4 16 64

5 25 125

6 36 216

7 49 343

8 64 512

9 81 729

10 100 1000