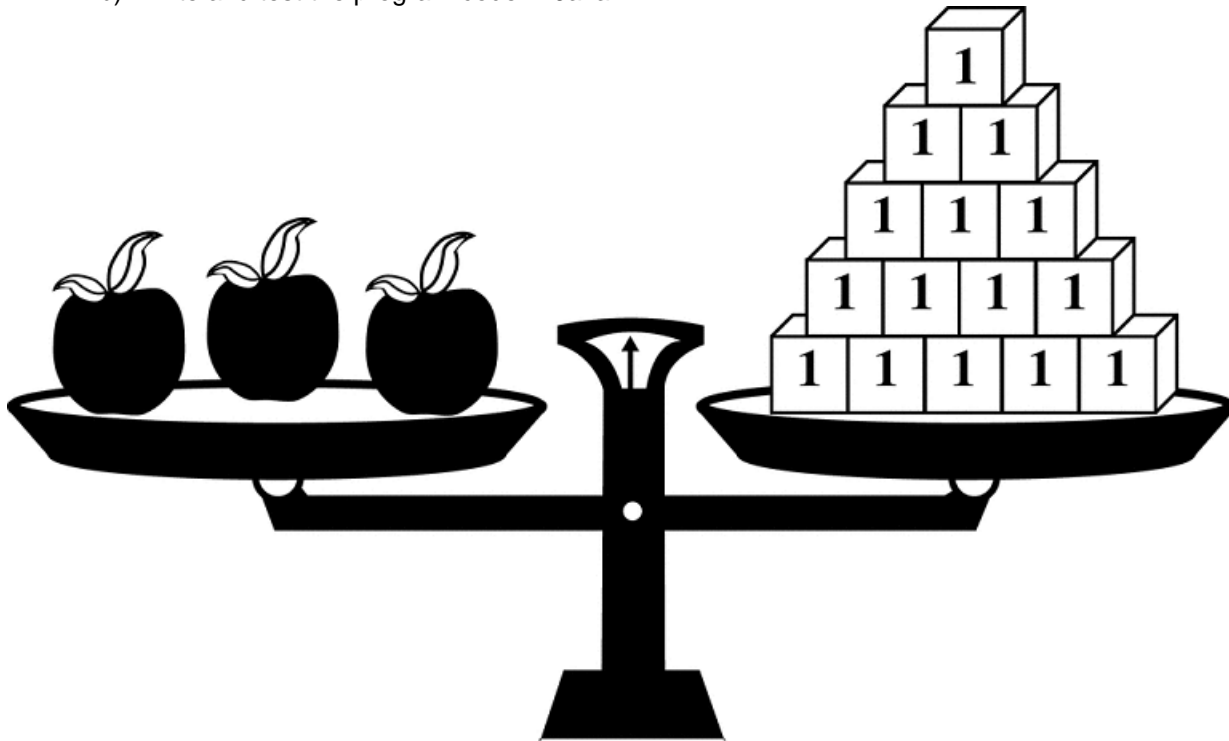# CST8110 - Introduction to Programming Assignment #1 –
Arithmetic/Problem Solving

DUE: Friday February 10th at 6PM SHARP – see submission instructions below. Late submissions receive a grade of 0.

Problem Description:
Generate for the following problem:
   a) Test plan AND
   b) Write and test the program code in Java.

- This problem will produce a very basic program to calculate the number of weights needed to weigh items on a balance scale. Devise a tagline for your program, and use it in the first line of display from the program. (see example below)
- The program should ask for the item weight in pounds.
- The program should calculate the minimum number of balance weights required of the following:
  - 100 lbs
  - 50 lbs
  - 20 lbs
  - 10 lbs
  - 5 lbs
  - 1 lbs
- Your code also does NOT (YET) need to worry if the user inputs an invalid value for the input (example negative number or character). We will implement this in a future assignment.
- The output of your code must match the sample EXACTLY.

Sample Output 1: *(red indicate user entered, blue is displayed by the program)*
```
Life needs a balance
How many pounds does the item weight? 186
You need 6 weights in total:
   1 100 lbs
   1  50 lbs
   1  20 lbs
   1  10 lbs
   1   5 lbs
   1   1 lbs
```

Sample Output 2:
```
Life needs a balance
How many pounds does the item weight? 99
You need 8 weights in total:
   0 100 lbs
   1  50 lbs
   2  20 lbs
   0  10 lbs
   1   5 lbs
   4   1 lbs
```

Submission Requirements:

- You must create a .zip file that contains ONLY the following:
  - Your program code – named Assign1.java - (with your name, section, lab teacher listed in comments in the header of the program)
  - A document created with either Notepad, Wordpad or Word named Assign1.docx or Assign1.txt with your test plan – note this should contain your name, section and lab teacher listed at the top. (**Start version has been provided**)
- The .zip file must have the following name:
  - Your last name, your first name, the word "Assign" and the assign number.
    Example   RosenblumHowardAssign1.zip
- Submit the .zip file through the Assignment feature which has been enabled in the CST8110 Blackboard course. This should be directly under the Assignment description.
- Marks will be given for correct submission (i.e. marks will be deducted for incorrect submission!)