Assignment 6: Equivalence Classes with Boundary Value Testing
Submission due: Friday 30th April (Week 13) at 14.00
Marks for this assignment: 5% of the module
See overleaf for Submission details.

Food Labelling Part 2
The program to be tested is the same as that outlined in Assignment 5. It takes in Serving Size Information and Nutrient Values. The program outputs a printout for each product showing the Serving Size Information followed by the list of Nutrients along with their values in grams (e.g. Total Fat 4.5g) or in the case of Sodium, milligrams (e.g. Sodium 0.3mg).
The Serving Size Information is expressed in English with the Size in brackets, for example:
Serving Size: 1 Slice (200g) or Serving Size: 1 Cup (100ml).
If the quantity is more than one, the appropriate plural wording is used, e.g. Serving Size: 3 Pieces (100g)

To Do:
Using the Equivalence Classes listed, create a set of test cases testing the boundary values of the classes. Each test case should be specified using the template given in Assignment 5. The Expected Outcomes are either the correct printout or an appropriate error message referring to the specific erroneous input.

Equivalence classes for: Qty = whole number in the range 1 - 20

Number	Description	Valid or Invalid	Example
1	Qty value less than 1	Invalid	-1
2	Qty value in the range 1 to 20	Valid	18
3	Qty value greater than 20	Invalid	22
4	Qty value is a whole number	Valid	5
5	Qty value is a not a whole number	Invalid	5.5
6	Qty value is numeric	Valid	14
7	Qty value includes non numeric characters	Invalid	5%

Equivalence classes for: Unit of Measure = [“C” | “P” | “S”]

Number	Description	Valid or Invalid	Example
8	Unit of measure is one of C, P or S	Valid	S
9	Unit of measure value is not alphabetic	Invalid	8
10	Unit of measure value is 1 character	Valid	P
11	Unit of measure value is not 1 character	Invalid	CPS
12	Unit of measure value is alphabetic	Valid	C
13	Unit of measure is not one of C, P or S	Invalid	Z

Equivalence classes for: Size = a whole number in the range 1 - 200

Number	Description	Valid or Invalid	Example
14	Size value less than 1	Invalid	-1
15	Size value in the range 1 to 200	Valid	18
16	Size value greater than 200	Invalid	202
17	Size value is a whole number	Valid	5
18	Size value is a not a whole number	Invalid	5.5
19	Size value is numeric	Valid	14
20	Size value includes non numeric characters	Invalid	5%

Equivalence classes for: Metric Symbol = [“g” | “ml”]

Number	Description	Valid or Invalid	Example
21	Metric symbol is equivalent to g or ml	Valid	G
22	Metric symbol is not equivalent to g or ml	Invalid	a
23	Metric symbol is absent	Invalid	
24	Metric symbol is not alphabetic	Invalid	8
25	Metric symbol is greater than 2 characters	Invalid	abc

Equivalence classes for: Nutrient Values = {Number}*5

Number	Description	Valid or Invalid	Example
26	Number of nutrient values is less than 5	Invalid	2.5,3.5,4.5
27	Number of nutrient values is 5	Valid	5.5,4.5,3.5,2.5,0.3
28	Number of nutrient values is greater than 5	Invalid	5.5,4.5,3.5,2.5,0.5,1.0

Equivalence classes for: Each nutrient value is a positive decimal number rounded to one decimal place

Number	Description	Valid or Invalid	Example
29	Each nutrient value is a positive number	Valid	5.5,4.5,3.5,2.5,0.3
30	Nutrient value is not a positive number	Invalid	-5.5,4.5,3.5,2.5,0.3
31	Nutrient value is not a decimal number	Invalid	12%
32	Nutrient value is not rounded to one decimal place	Invalid	1.22

Equivalence classes for: Nutrient value inputs must be separated by commas

Number	Description	Valid or Invalid	Example
33	A comma separates each entry in the nutrient value list	Valid	5.5,4.5,3.5,2.5,0.3
34	A comma does not separate two entries in the nutrient value list	Invalid	5.5 4.5,3.5 2.5,0.3

Equivalence classes for: Protein and Carbohydrate values must be in the range 1.0 – 10.0
Fat value must be less than 5.0
Fibre value must be less than 3.0
Sodium value must be less than 0.5

Number	Description	Valid or Invalid	Example
35	First two values are between 1.0 and 10.0	Valid	5.5,4.5,3.5,2.5,0.3
36	Protein value is less than 1.0	Invalid	0.9,4.5,3.5,2.5,0.3
37	Protein value is greater than 10.0	Invalid	11.1,4.5,3.5,2.5,0.3
38	Carbohydrate value is less than 1.0	Invalid	5.5,0.9,3.5,2.5,0.3
39	Carbohydrate value is greater than 10.0	Invalid	5.5,11.1,3.5,2.5,0.3
40	Fat value is less than 5.0	Valid	5.5,4.5,3.5,2.5,0.3
41	Fat value is not less less than 5.0	Invalid	5.5,4.5,6.0,2.5,0.3
42	Fibre value is between 0.0 and 2.9	Valid	5.5,4.5,3.5,2.5,0.3
43	Fibre value is greater than 2.9	Invalid	5.5,4.5,3.5,3.0,0.3
44	Sodium value is between 0.0 and 0.4	Valid	5.5,4.5,3.5,2.5,0.3
45	Sodium value is greater than 0.4	Invalid	5.5,4.5,3.5,2.5,0.6

Individual submission:
Hard copy reports are required, stapled together with **a cover page** showing the Module Code, Assignment Number, Submission Date, your ID, your Name, and your Course.
Please do not submit in a folder.

Submissions from pairs of students are welcome, subject to the following condition:
In addition to the above, the cover page should contain a brief summary of the breakdown of work between the two students, indicating the contribution of each student to the work that went into the submission.