**Batch Conversion App**

A desktop app for Mac OS X. This is for my personal use so the GUI can be simple. However, next year I might want to improve it and offer it as a download from my blog.

**Input**: a .csv file containing a list of colors as follows:

1. # - which might be blank
2. Name - which might be blank
3. L
4. A
5. B

Always Illuminant D50 and 2 degree observer.

**Output**: a .csv file

1. # - repeat the input value
2. Name - repeat the input value
3. L - repeat the input value
4. A- repeat the input value
5. B- repeat the input value
6. Rounded LAB, which is one line consisting of the following:
   1. The letter "L";
   2. The "L" value, rounded
   3. a white space
   4. The letter "A",
   5. The "A" value, rounded
   6. a white space
   7. The letter "B"
   8. The "B" value, rounded
      1. example: 82.5 -14.2 43.9 becomes L82 A-14 B44
7. Munsell H1
8. Munsell H2
9. Munsell V
10. Munsell C
11. Original Munsell, which is H1H2 V/C, i.e. 6.3RP 7.6/4.8
12. Decimal Hue, which is done by adding H1 + H2, after H2 has been converted to a number as follows:
    * 1. R = 0
      2. YR = 10
      3. Y = 20
      4. GY = 30
      5. G = 40
      6. BG = 50
      7. B = 60
      8. PB = 70
      9. P = 80
      10. RP = 90
      11. N= -2.5 (note: "N" colors are have no value for H1)
13. Nominal H1, which is found after rounding the Munsell notation to the nearest node
    1. Must be 2.5, 5, 7.5 or 10
14. Nominal H2, which is found after rounding the Munsell notation to the nearest node
15. Nominal V, which is found after rounding the Munsell notation to the nearest node
    1. a whole number from 1 to 10
16. Nominal H1, which is found after rounding the Munsell notation to the nearest node
    1. chromas below 0.5 should counted as "Ns" or "neutrals - i.e. they have no chroma
    2. chromas between 0.5 and 1.5 should be considered chroma 1
    3. all higher chromas should be rounded to the nearest even number
17. Nominal Munsell, which is the same format as #11 above, but using the inputs from 13-16
18. dE to Node, a number that quantifies how far apart #11 and #17 are.
19. Nominal Decimal Hue, calculated the same as #12 above, but using the inputs from 13 & 14.
20. 40 Hue, which is calculated by dividing 18 by 2.5 and rounding to the nearest whole number. Neutrals are -1.
21. Munsell verbal description: this converts #17 into a verbal description of the color, using the format " [value], [chroma], [hue]"
    1. Value
       1. 1-2 = very dark
       2. 3 = dark
       3. 4-6 = middle
       4. 7-8 = light
       5. 9-10 = very light
    2. Chroma
       1. if Chroma = 0, just say "a [dark/middle/light] neutral"
       2. 1 = very weak
       3. 2-4 = weak
       4. 6-8 = moderate
       5. 8-10 = strong
       6. 12 or higher = very strong
    3. Hue - see the spreadsheet "HueVerbalsTable". I might want to tinker with this so it would be best if you kept it as easy to edit as possible.
    4. Example: 2.5 5/8 becomes "a middle, moderate purplish red"
22. Judd category. See the spreadsheet "Judd". Use dE calculations to determine which "centroid" is the closest match for this color, using #11. Report the category ID number in this column.
23. Judd verbal description. Insert the verbal description of the Judd category in this column.
24. RGB = convert #17 to RGB. Make sure it is sRGB
25. Hex = convert #24 to the hex code