

```
#!/bin/sh
# fluxes
# RTH 11/01/07
#
# AWK Math example, using one of Jon's early HW assignments
# Some AWK variants (GAWK, NAWK, etc.) have different functions, so RTFM to see
# Note that AWK log is really ln, so use identity that  $\log_{10}(x) = \ln(x)/\ln(10)$ 
# Remember that $1 is the first column, $2 the second, and so on.
# Also note the syntax of AWK in general:
# 1. You don't have to declare variables or types, it does its best to pick
# 2. awk 'BEGIN {Do before reading} {Do while reading} END {Duh}' IN > OUT
# 2a. ** If you don't print anything, there won't be any output :) **
# 3. AWK is best for relatively simple, one liner-ish programs.
# Anything more and you should seriously consider Perl or Python or
# one of the higher scripted languages!
# 3a. Interesting to note that limitations in both SED and AWK led to
# the creation of Perl, which is like a script-variant of C.

awk '{print $1, (-2.5)*(log($2)/log(10))-21.1}' vegaobs.dat > vega_stmag.dat

awk '{f_nu=$2*$1^2*(1e-10)*(1/3e8)
print $1, (-2.5)*(log(f_nu)/log(10))-48.6 }' vegaobs.dat > vega_abnu.dat

# This is just for me, I have a perl/PGPLOT wrapper that takes care of most
# mundane plotting tasks. Use whatever your heart desires to plot the output
~/plotter/template vegaobs.dat -2nd vega_stmag.dat -3rd vega_abnu.dat -line -yrange 3,
-1.5 -label "Wavelength (\A),Magnitude,STMAG (Green) & ABNU (Blue)"
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