

```
1 # These calculations (originally in `ipums.R`) were used...
2 # ...to validate that the weighted calculations are correct)
3
4 # Compute mean wages by year
5 # Perfect match for results computed with Hmisc (see below)
6 ipums.means <- ipums %>%
7   group_by(year) %>%
8   summarise(
9     pop = sum(PERWT),
10    mean.wages = sum(INCWAGE * PERWT) / pop,
11    v = (sum(PERWT * (INCWAGE - mean.wages)^2)) / (pop - 1),
12    sd = sqrt(v),
13    se = sd / sqrt(pop)
14  )
15
16 # Test by comparing to results of Hmisc module
17 library(Hmisc)
18
19 ipums.hmisc.means <- ipums %>%
20   group_by(year) %>%
21   summarise(
22     pop = sum(PERWT),
23     mean.wages = wtd.mean(INCWAGE, PERWT),
24     v = wtd.var(INCWAGE, PERWT),
25     sd = sqrt(v),
26     se = sd / sqrt(pop)
27   )
28
29 all.equal(ipums.means, ipums.hmisc.means)
```