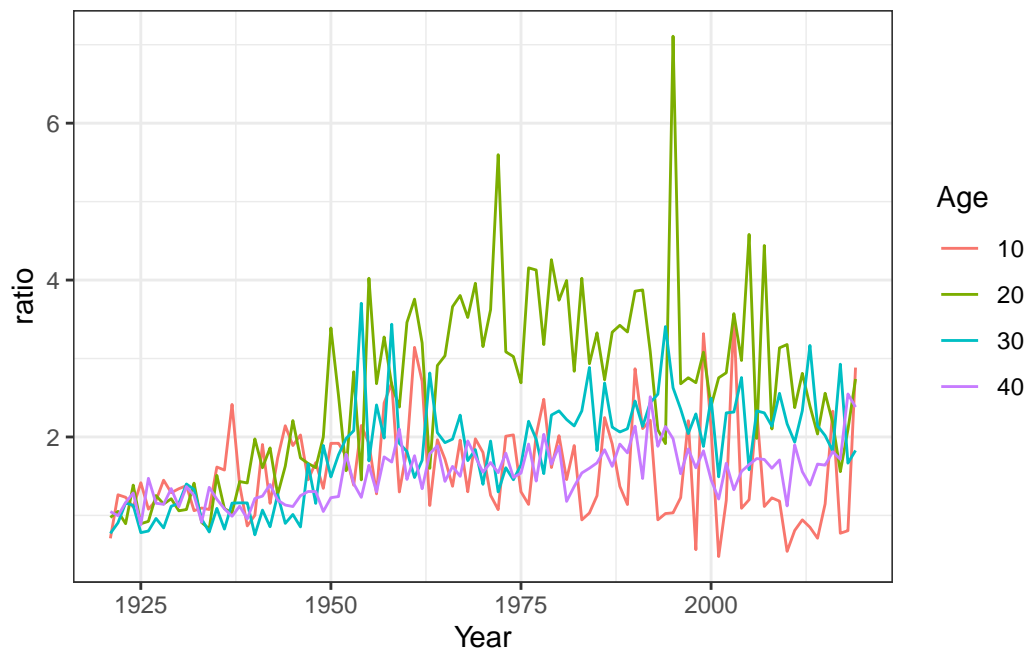


Lab1

Lab 1

(not finished)

1. Plot the ratio of male to female mortality rates over time for ages 10,20,30 and 40 (different color for each age) and change the theme



2. Find the age that has the highest female mortality rate each year

```
# A tibble: 102 x 2
# Groups:   Year [99]
  Year Age
<dbl> <chr>
```

```

1 1921 106
2 1922 98
3 1923 104
4 1924 107
5 1925 98
6 1926 106
7 1927 106
8 1928 104
9 1929 104
10 1930 105
# ... with 92 more rows

```

3. Use the `'summarize(across())'` syntax to calculate the standard deviation of mortality rates by age for the Male, Female and Total populations.

```

# A tibble: 111 x 4
  Age      Male  Female  Total
<chr>   <dbl>   <dbl>   <dbl>
1 0      0.0330  0.0256  0.0294
2 1      0.00396 0.00352 0.00374
3 10     0.000561 0.000474 0.000509
4 100    0.138    0.0928  0.0729
5 101    0.158    0.125   0.0995
6 102    0.214    0.143   0.114
7 103    0.371    0.252   0.208
8 104    1.01     0.449   0.363
9 105    1.29     1.27    1.27
10 106    1.13     1.21    1.20
# ... with 101 more rows

```

4. The Canadian HMD also provides population sizes over time (<https://www.prhdh.umontreal.ca/BDLC/data>). Use these to calculate the population weighted average mortality rate separately for males and females, for every year. Make a nice line plot showing the result (with meaningful labels/titles) and briefly comment on what you see (1 sentence). Hint: `'left_join'` will probably be useful here.

