HW1

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October 01, 2025

First off, have to say I am extremely impressed with this Knit function, I have never used it before and it is awesome! I have not used R for many of my projects before, but after working with this, I may just have a reason to switch from my main (python) to this. Depending on the task of course.

Q1. `Su_raw_matrix.txt`

- Mean `Liver_2.CEL`: *(insert from Q1_mean_Liver2.csv)*
- SD `Liver_2.CEL`: *(insert from Q1_sd_Liver2.csv)*
- Column means/sums saved as `Q1_colMeans.csv`, `Q1_colSums.csv`.

To start, I loaded a tab-delimited text file into a table called su. Explaning per the Q: The mean is the "average level," and the SD tells how spread out that column's values are. And to make it easy, I used numeric columns only to get quick averages and totals for each column

Q2. Histograms of Normals

Smaller sd → narrower spread.

Larger sd → wider spread. N(0, 0.2^2): Same center at 0, but a tight, skinny shape because the sd is small (0.2).

N(0, 0.5^2): Same center at 0, but wider because the sd is larger (0.5).

Q3. ggplot Demos and Diabetes (mass by class)

Diabetes (mass by class):

Q4. Titanic Pipelines

- See `Q4a_summary.txt`, `Q4b_males.csv`, `Q4c_fare_desc.csv`, `Q4d_with_famsize.csv`, `Q4e_by_sex.csv`

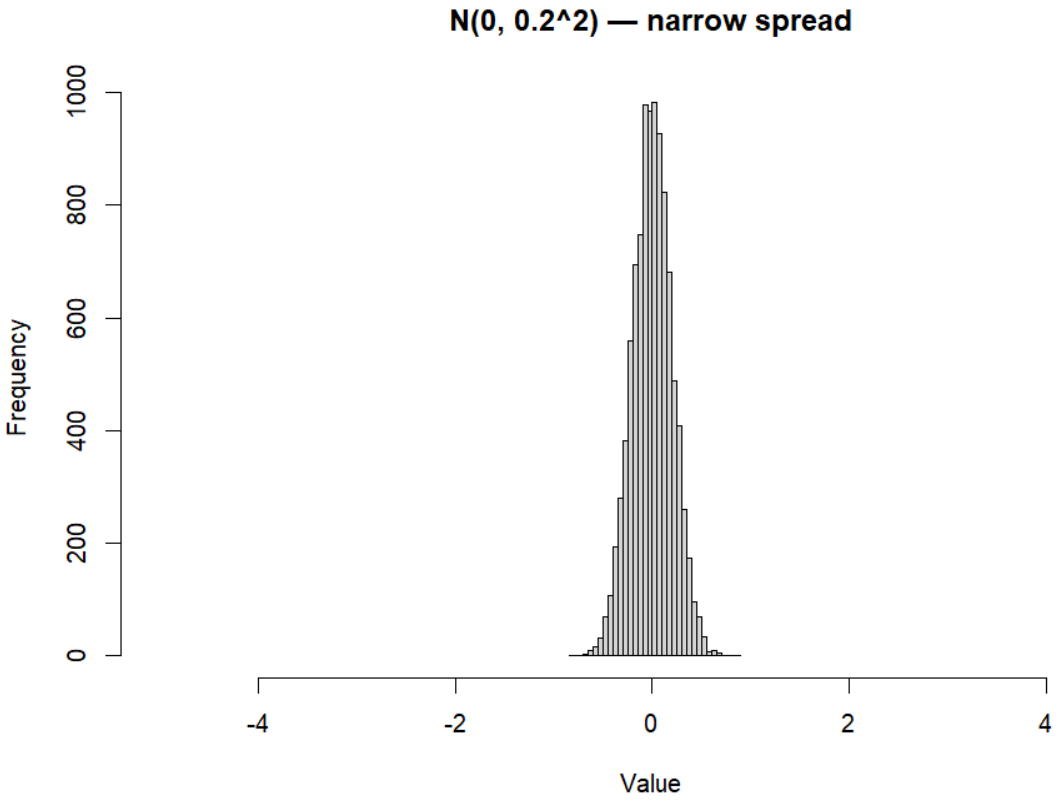

Figure 1: N(0, 0.2^2)

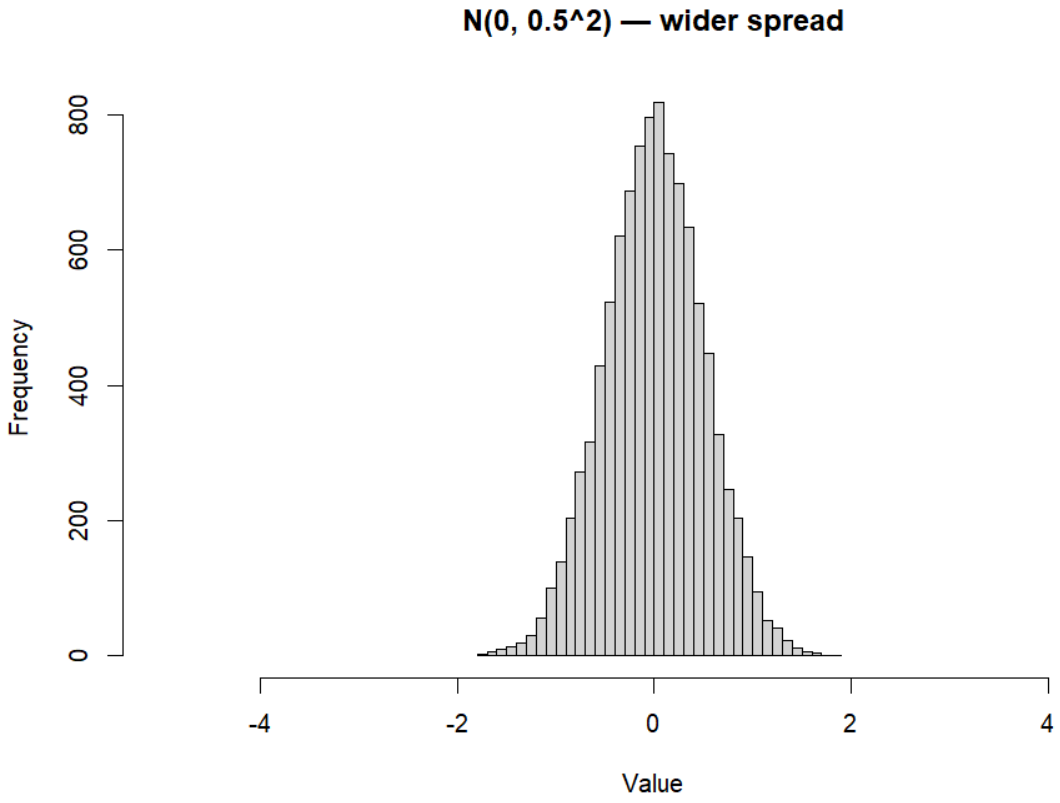

Figure 2: $N(0, 0.5^2)$

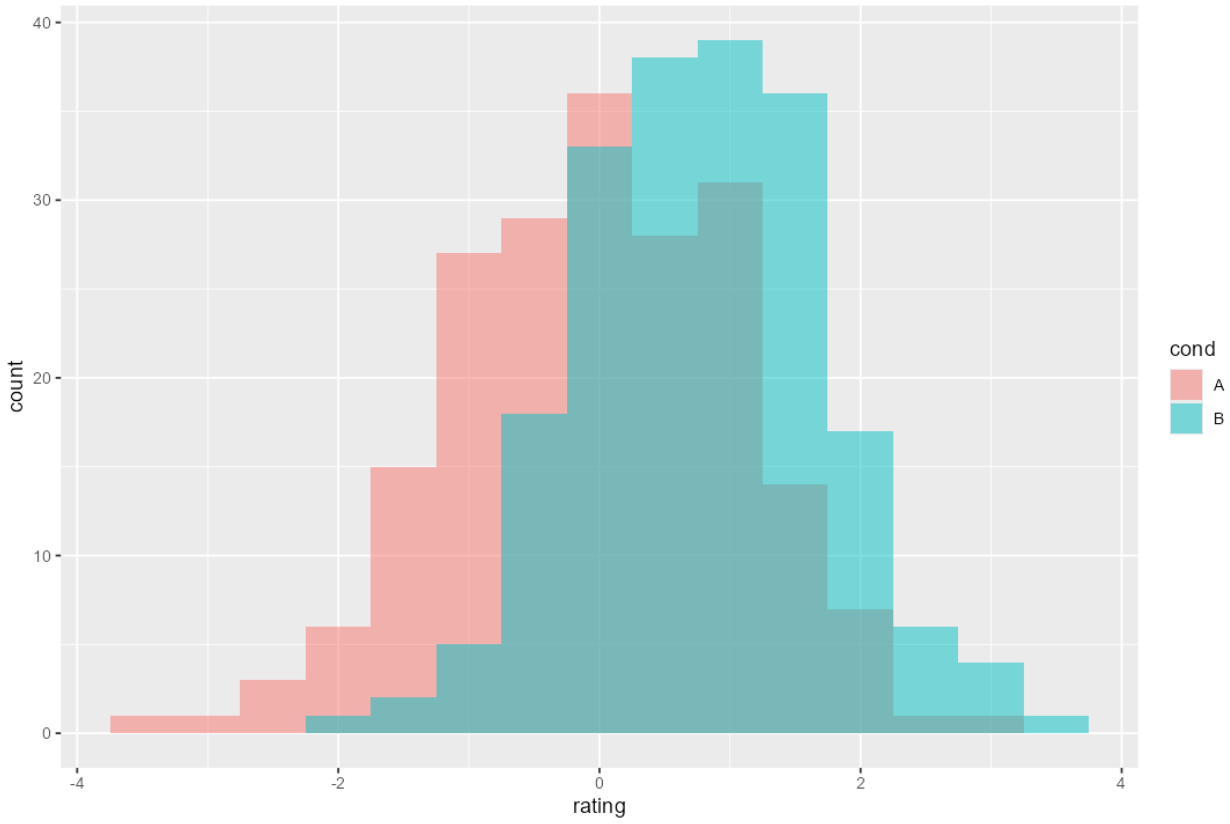

Figure 3: Overlaid (demo)

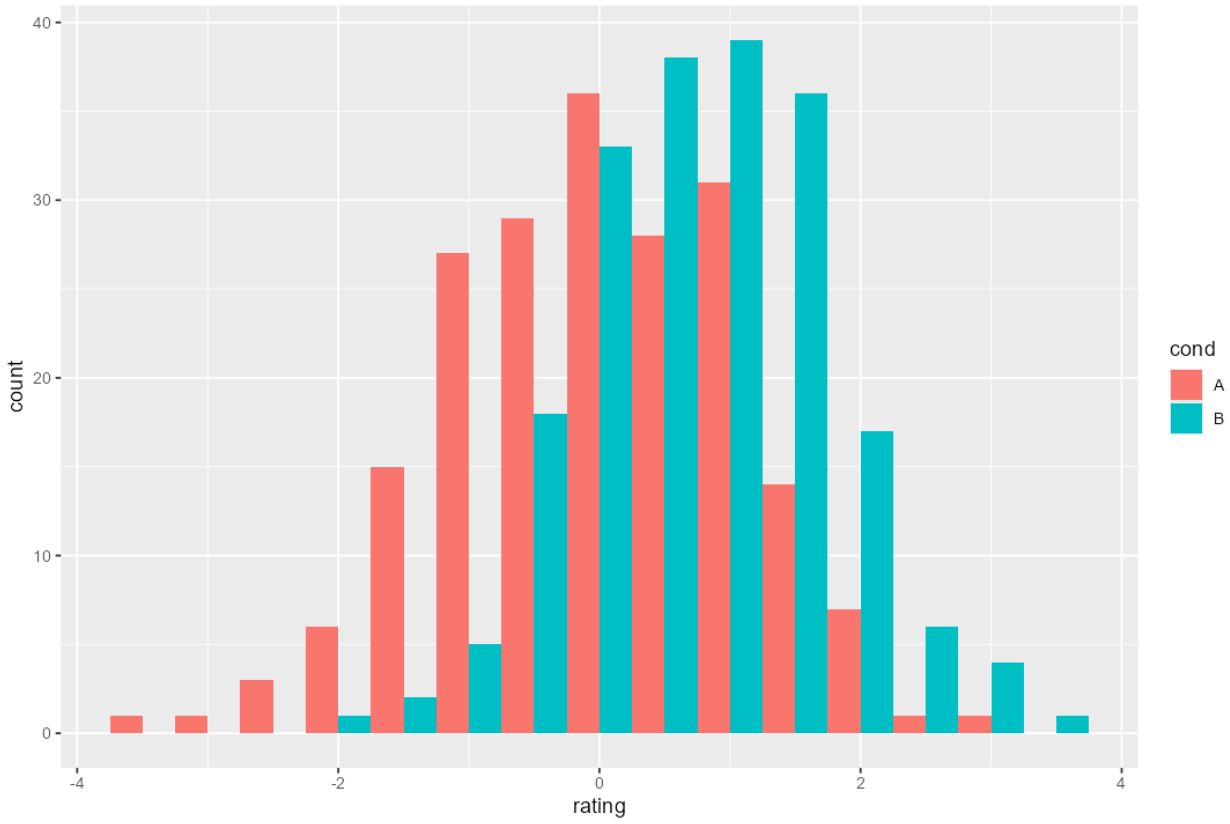

Figure 4: Dodged (demo)

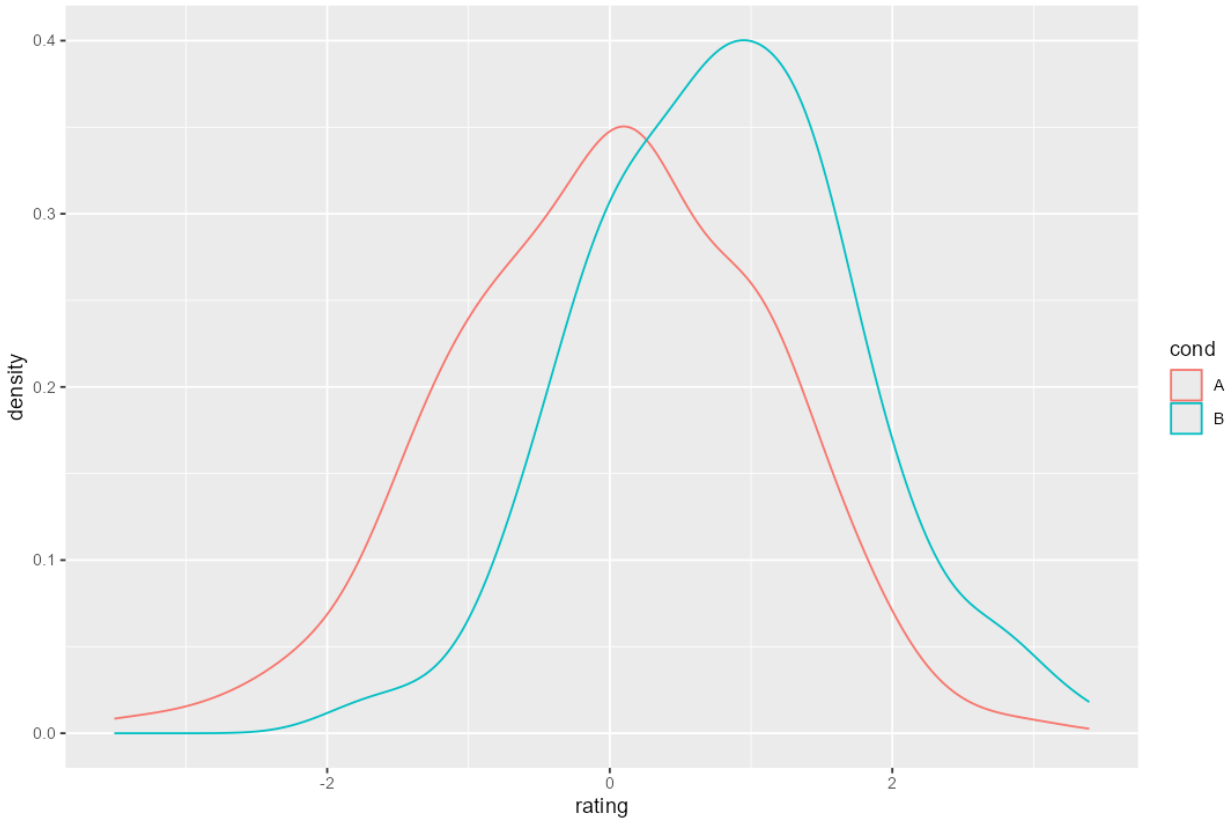

Figure 5: Density lines (demo)

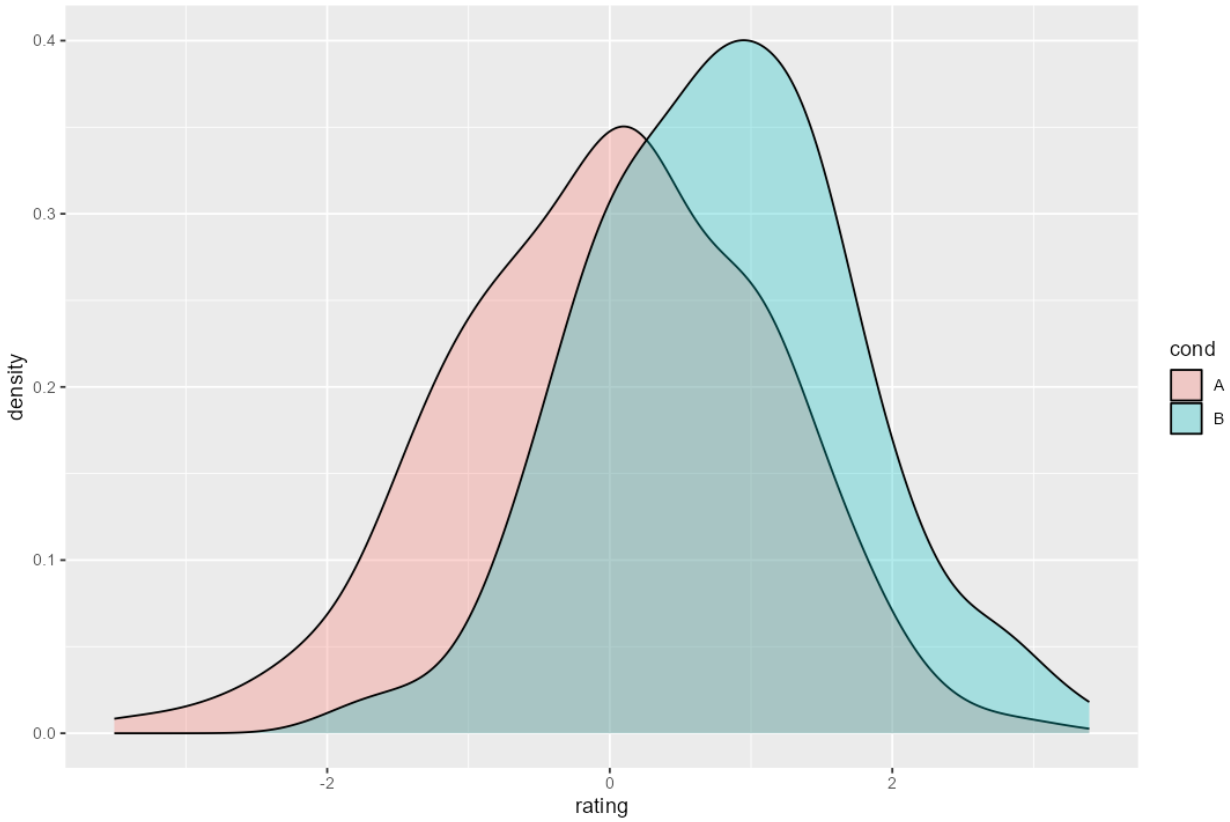

Figure 6: Density fill (demo)

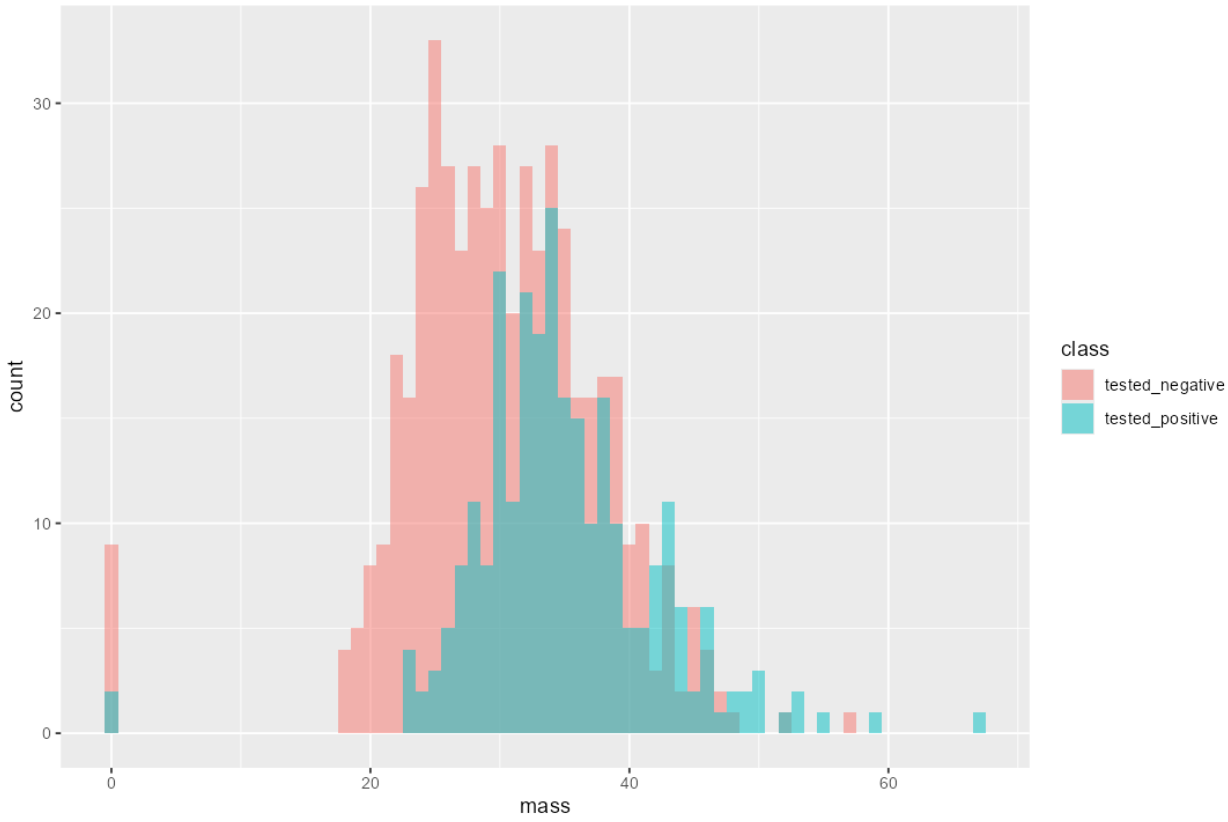

Figure 7: Overlaid

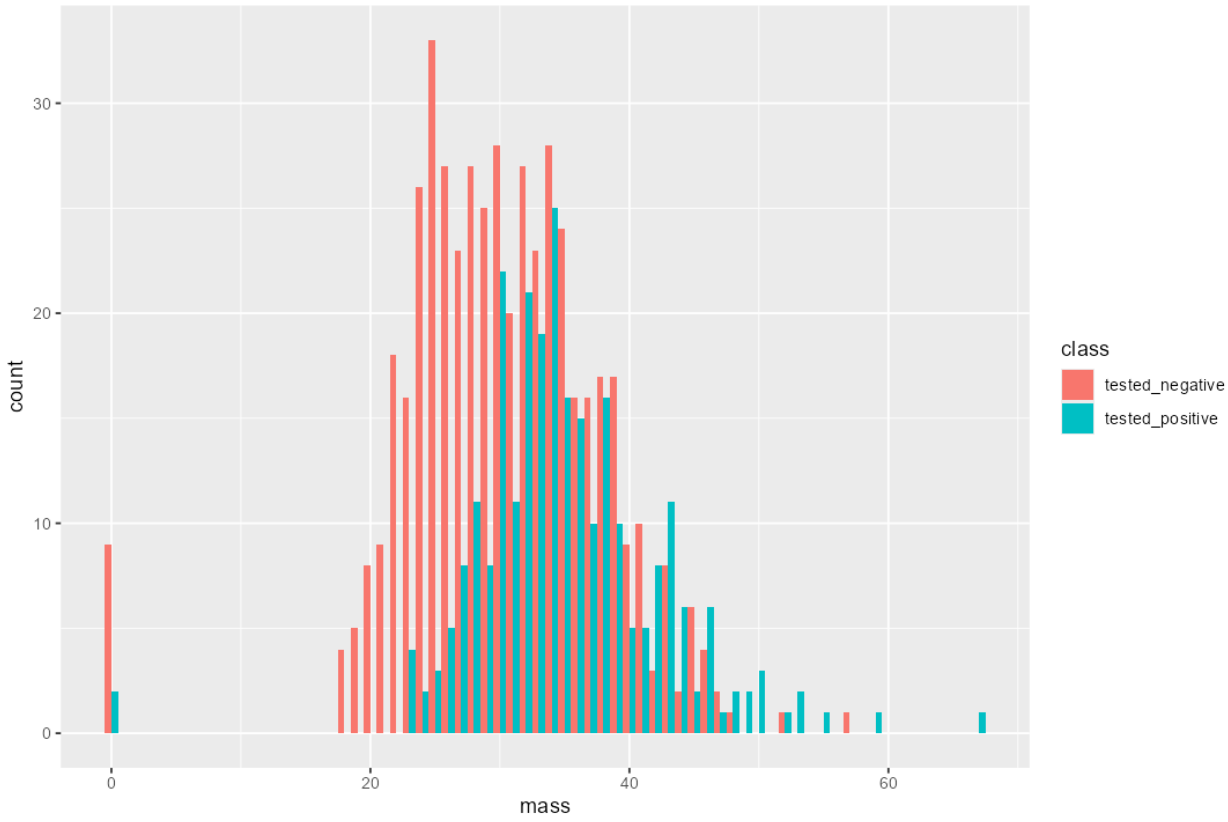

Figure 8: Dodged

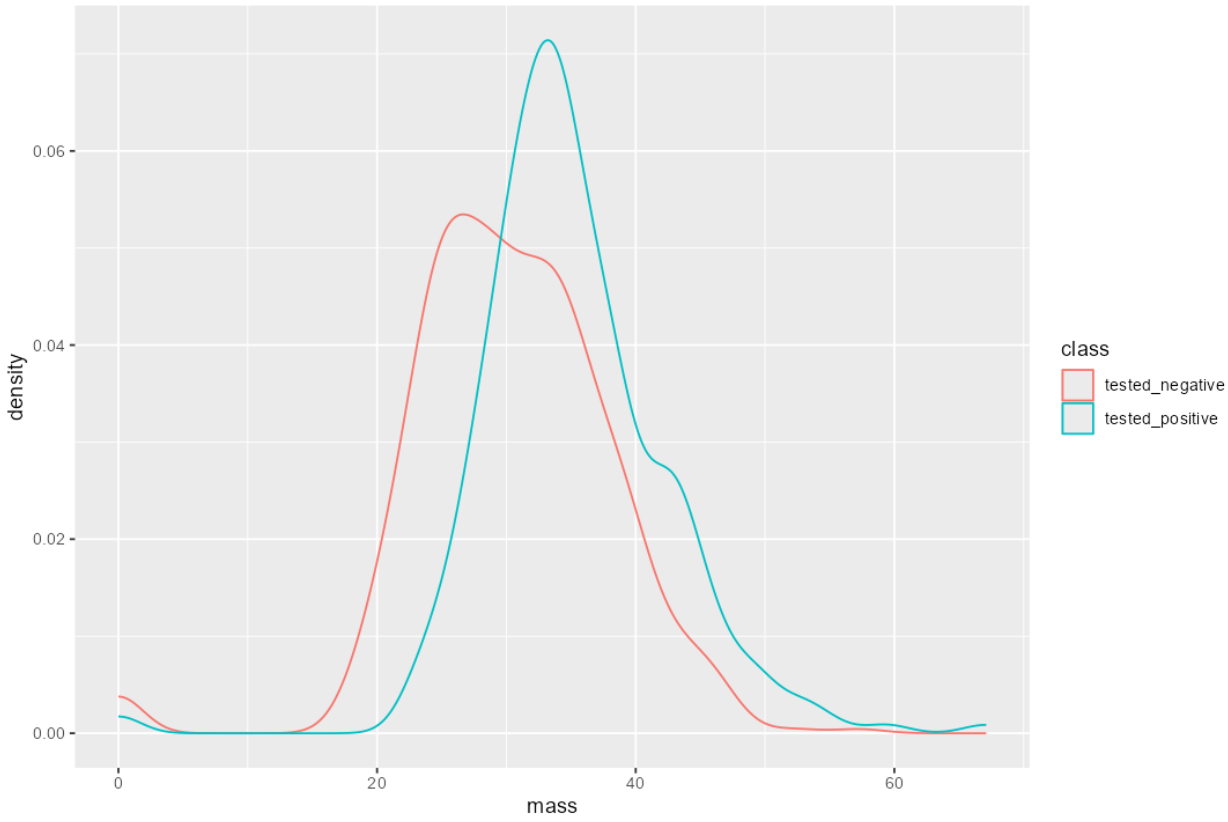

Figure 9: Density (lines)

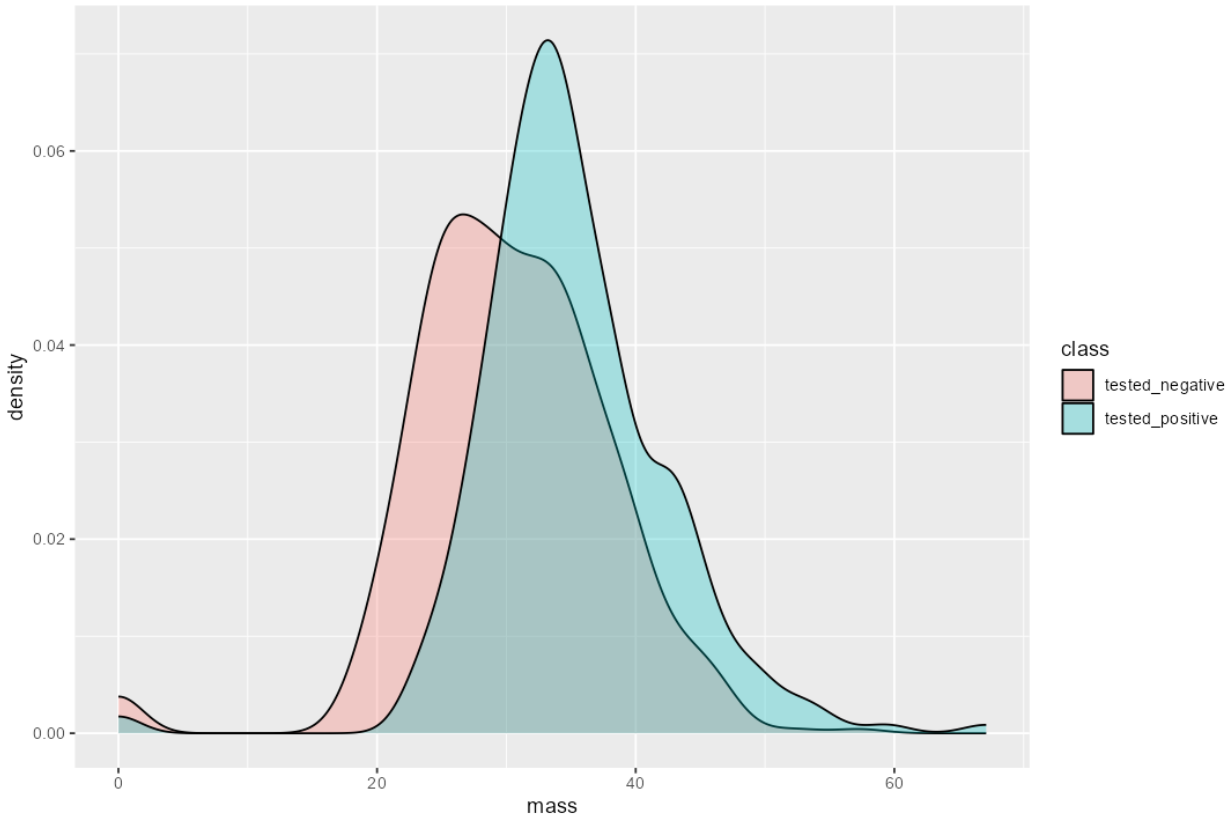

Figure 10: Density (fill)

I removed rows with any missing values and then printed basic stats for each column.And kept only male passengers. Sorted by Fare from highest to lowest. Also added a new column, FamSize = Parch + SibSp. And grouped by Sex and reported each group's average fare and number of survivors.

Q5. Quantiles of `skin`

- See `Q5_skin_quantiles.csv`

Table 1: Diabetes `skin` quantiles (10th, 30th, 50th, 60th)

Percentile	Value
10	0
30	10
50	23
60	27