MAT 222
Spring 2019
Homework 4

"Is Mayonnaise an instrument?"
−Patrick Star, Spongebob Squarepants

Problem 1: The summary statistics for resting pulse rates are obtained for 26 men and 23 women, and the data is summarized in the table below.

Group	n	$\overline{x}$	s
Male	26	71.65	5.28
Female	23	72.13	7.29

(a) Construct a 99% confidence interval for the mean difference between male and female resting pulse rate.

(b) Is there a significant difference in mean resting pulse rate between men and women? State an appropriate null and alternative hypothesis, find your test statistic, p-value, and draw your conclusion at $\alpha = 0.05$.

(c) Consider the following side-by-side box-plot obtained for the data. Is it appropriate to use the method you used in (a) to compare the mean resting pulse rates? Justify your response using the plot.